As filed with the Securities and Exchange Commission on May 4, 2020

Registration No. 333-236942

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

Amendment No. 1
to
FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

Ayala Pharmaceuticals, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**2836**	**82-3578375**
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification No.)

Oppenheimer 4
Rehovot 7670104, Israel
+972-8-373-1541
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

PHS Corporate Services, Inc.
1313 N. Market Street
Suite 5100
Wilmington, DE 19801
(857) 444-0553
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Peter N. Handrinos **Keith L. Halverstam** **Latham & Watkins LLP** **200 Clarendon Street** **Boston, MA 02116** **(617) 948-6000**	**Haim Gueta** **Shachar Hadar** **Meitar, Law Offices** **16 Abba Hillel Rd.** **Ramat Gan, Israel**	**Deanna L. Kirkpatrick** **Yasin Keshvargar** **Davis Polk & Wardwell LLP** **450 Lexington Avenue** **New York, NY 10017** **(212) 450-4000**

Approximate date of commencement of proposed sale to the public:
As soon as practicable after the effective date of this Registration Statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	**Accelerated filer**	☐
Non-accelerated filer	☒	**Smaller reporting company**	☒
		Emerging growth company	☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. ☐

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities To Be Registered	**Proposed Maximum Aggregate Offering Price(1)**	**Amount of Registration Fee(2)**
Common Stock, par value $0.01 per share	$61,333,344.00	$7,961.07

(1) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended. Includes 500,000 additional shares of our common stock that the underwriters have the option to purchase.

(2) Calculated pursuant to Rule 457(o) based on an estimate of the proposed maximum aggregate offering price. The registrant previously paid $6,490.00 of the registration fee.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

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The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED MAY 4, 2020.

PRELIMINARY PROSPECTUS

3,333,334 Shares

Ayala Pharmaceuticals, Inc.

Common Stock

This is the initial public offering of our common stock. We are selling 3,333,334 shares of our common stock. We currently expect the initial public offering price to be between $14.00 and $16.00 per share of common stock. Currently, no public market exists for the shares.

We have granted the underwriters an option to purchase up to 500,000 additional shares of our common stock.

We have applied to have our common stock listed on The Nasdaq Global Market under the symbol "AYLA."

We are an "emerging growth company" under the federal securities laws and are subject to reduced public company disclosure standards. See "Prospectus Summary—Implications of Being an Emerging Growth Company."

Investing in our common stock involves risks. See "Risk Factors" beginning on page 12 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

	Per Share	Total
Public offering price	$	$
Underwriting discount(1)	$	$
Proceeds, before expenses, to us	$	$

(1) We refer you to "Underwriting" beginning on page 179 for additional information regarding underwriting compensation.

The underwriters expect to deliver the shares to purchasers on or about , 2020 through the book-entry facilities of The Depository Trust Company.

Joint Book-Running Managers

Citigroup **Jefferies**

Co-Managers

Oppenheimer & Co. **Raymond James**

, 2020.

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Neither we nor the underwriters have authorized anyone to provide any information or to make any representations other than those contained in this prospectus or in any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We and the underwriters take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the shares of common stock offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus or in any applicable free writing prospectus is current only as of its date, regardless of its time of delivery or any sale of shares of our common stock. Our business, financial condition, results of operations and prospects may have changed since that date.

For investors outside the United States: We have not, and the underwriters have not, done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus outside the United States.

We have proprietary rights to trademarks, trade names and service marks appearing in this prospectus that are important to our business. Solely for convenience, the trademarks, trade names and service marks may appear in this prospectus without the ® and TM symbols, but any such references are not intended to indicate, in any way, that we forgo or will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensors to these trademarks, trade names and service marks. We do not intend our use or display of other parties' trademarks, trade names or service marks to imply, and such use or display should not be construed to imply, a relationship with, or endorsement or sponsorship of us by, these other parties.

PROSPECTUS SUMMARY

This summary highlights, and is qualified in its entirety by, the more detailed information and financial statements included elsewhere in this prospectus. This summary does not contain all of the information that may be important to you in making your investment decision. You should read this entire prospectus carefully, especially the "Risk Factors" section beginning on page 12 and our consolidated financial statements and the related notes appearing at the end of this prospectus, before deciding to invest in our common stock.

As used in this prospectus, unless the context otherwise requires, references to "we," "us," "our" and "Ayala" refer to the consolidated operations of Ayala Pharmaceuticals, Inc. and its subsidiaries.

Overview

We are a clinical-stage oncology company focused on developing and commercializing small molecule therapeutics for patients suffering from rare and aggressive cancers, primarily in genetically defined patient populations. Our differentiated development approach is predicated on identifying and addressing tumorigenic drivers of cancer, through a combination of our bioinformatics platform and next-generation sequencing to deliver targeted therapies to underserved patient populations. Our current portfolio of product candidates, AL101 and AL102, targets the aberrant activation of the Notch pathway with gamma secretase inhibitors. Gamma secretase is the enzyme responsible for Notch activation and, when inhibited, turns off the Notch pathway activation. Aberrant activation of the Notch pathway has long been implicated in multiple solid tumor and hematological cancers and has often been associated with more aggressive cancers. In cancers, Notch is known to serve as a critical facilitator in processes such as cellular proliferation, survival, migration, invasion, drug resistance and metastatic spread, all of which contribute to a poorer patient prognosis. AL101 and AL102 are designed to address the underlying key drivers of tumor growth, and our initial Phase 2 clinical data of AL101 suggest that our approach may address the shortcomings of existing treatment options. We believe that our novel product candidates, if approved, have the potential to transform treatment outcomes for patients suffering from rare and aggressive cancers.

Our lead product candidate, AL101, is being developed as a potent, selective, injectable small molecule gamma secretase inhibitor, or GSI. We obtained an exclusive, worldwide license to develop and commercialize AL101 from Bristol-Myers Squibb Company, or BMS, in November 2017. BMS evaluated AL101 in three Phase 1 studies in more than 200 subjects with various cancers who had not been prospectively characterized for Notch activation, and to whom we refer to as unselected subjects. While these Phase 1 studies did not report statistically significant overall results, clinical activity was observed across these studies in cancers in which Notch has been implicated as a tumorigenic driver.

We are currently evaluating AL101 as a monotherapy in an open-label Phase 2 clinical trial for the treatment of recurrent/metastatic adenoid cystic carcinoma, or R/M ACC, for patients bearing Notch-activating mutations. We refer to this trial as the ACCURACY trial. We use next-generation sequencing, or NGS, to identify patients with Notch-activating mutations, an approach that we believe will enable us to target the patient population with cancers that we believe are most likely to respond to and benefit from AL101 treatment. We chose to initially target R/M ACC based on our differentiated approach, which is comprised of: data generated in a Phase 1 study of AL101 in unselected, heavily pretreated subjects conducted by BMS, our own data generated in patient-derived xenograft models, our bioinformatics platform and our expertise in the Notch pathway.

ACC is a rare malignancy of the secretory glands, most commonly of the salivary glands. It has an annual incidence of approximately 3,400 patients in the United States, approximately 1,700 of whom are R/M ACC patients. There are currently no FDA-approved therapies for patients with R/M ACC. Based on scientific literature and our bioinformatics research, we estimate that 18% to 22% of R/M ACC patients have Notch-activating mutations. These Notch patients have a significantly worse prognosis, with estimated overall median

survival rates roughly four times shorter than patients without Notch-activating mutations. According to published data from 31 Phase 2 clinical trials in ACC conducted since 2005 using a variety of treatment modalities, these treatments showed limited or no clinical activity in unselected ACC subjects. The objective response rates, or ORR, in 30 of these trials, ranged from 0% to 20%, with a 47% ORR observed in one trial conducted in China. In 15 of the 31 trials, a 0% ORR was observed. ORR includes subjects who displayed either a complete response, or CR, or a partial response, or PR.

We are currently conducting our ongoing Phase 2 ACCURACY trial for the treatment of R/M ACC in subjects with progressive disease and Notch-activating mutations. Our interim data from the ACCURACY trial is as of April 28, 2020, and include safety data from 45 subjects and efficacy data from 39 subjects as of the date of the first radiographic scan, all of whom are in the 4mg arm of the trial. As of April 28, 2020, AL101, which was generally well tolerated with manageable side effects, showed a 69% disease control rate (total subjects who displayed either a response or stable disease), with an unconfirmed 15% ORR. A confirmed response is a response observed in two or more scans, an unconfirmed response that may potentially be confirmed is a response observed in only one scan for a patient who remains on trial and an unconfirmed response that will remain unconfirmed is a response observed in only one scan for a patient who has left the trial. This unconfirmed 15% ORR included no CRs and six PRs (two confirmed PRs, two unconfirmed PRs that may potentially be confirmed and two unconfirmed PRs that will remain unconfirmed as both subjects subsequently left the trial) and 54% of subjects displaying stable disease, or SD. If approved, we believe that AL101 has the potential to be the first FDA-approved therapy for patients with R/M ACC and address the unmet medical need of these patients. AL101 was granted Orphan Drug Designation in May 2019 for the treatment of ACC and Fast Track Designation in February 2020 for the treatment of R/M ACC.

AL101's clinical activity was also observed in two Phase 1 studies conducted by BMS in subjects with various cancers in which Notch-activating mutations are known to be a tumorigenic driver. These cancers included hematological cancers such as T-ALL and soft tissue tumors such as desmoid tumors. Clinical activity was also observed in a further BMS Phase 1 study of AL101 in combination with chemotherapy, which included heavily pretreated subjects with triple negative breast cancer, or TNBC. Our IND for AL101 for the treatment of TNBC was accepted by the FDA in April 2020. Subject to the impact of the novel coronavirus disease, or COVID-19, on our business, we intend to commence additional Phase 2 clinical trials of AL101 for the treatment of R/M TNBC in the second half of 2020 and for the treatment of relapsed or refractory T-cell acute lymphoblastic leukemia, or R/R T-ALL, in the second half of 2020.

TNBC is one of the most aggressive types of breast cancer. Breast cancer, which has an annual incidence of approximately 270,000 patients in the United States, is the leading cause of cancer death in women worldwide and the second leading cause of cancer death in women in the United States. Approximately 10% of breast cancer patients are diagnosed with TNBC, which is associated with a younger age and more advanced stage at diagnosis, increased risk of visceral metastasis and decreased survival. Approximately 37% of TNBC patients have R/M TNBC, resulting in an annual incidence of approximately 10,000 R/M TNBC patients in the United States. Based on primary literature and our bioinformatics research, we estimate that approximately 9% to 16% of R/M TNBC patients have Notch-activating gene alterations including mutations and fusions. In the Phase 1 study of AL101 in combination with chemotherapy in heavily pretreated subjects, which included 22 TNBC subjects, a CR was observed in one TNBC subject, PRs were observed in seven TNBC subjects and SD was observed in five TNBC subjects. Based on these findings and supporting data from our own patient-derived xenograft, or PDX, models, and subject to the impact of COVID-19 on our business, we intend to commence a Phase 2 clinical trial of AL101 as a monotherapy for the treatment of R/M TNBC in patients with Notch-activating mutations in the second half of 2020.

We are also developing AL101 for the treatment of T-ALL, an aggressive, rare form of T-cell specific leukemia. T-ALL has an annual incidence of approximately 1,200 patients in the United States, of which an estimated 400 patients, including pediatric patients, present for the treatment of relapsed/refractory, or R/R, T-ALL. Approximately 65% of all R/R T-ALL patients have Notch-activating mutations. In addition, there is an incremental subset of patients with Notch pathway activation who do not bear Notch-activating mutations. R/R T-ALL is characterized by chemotherapy resistance, induction failure and tendency for early relapse, as 55% of

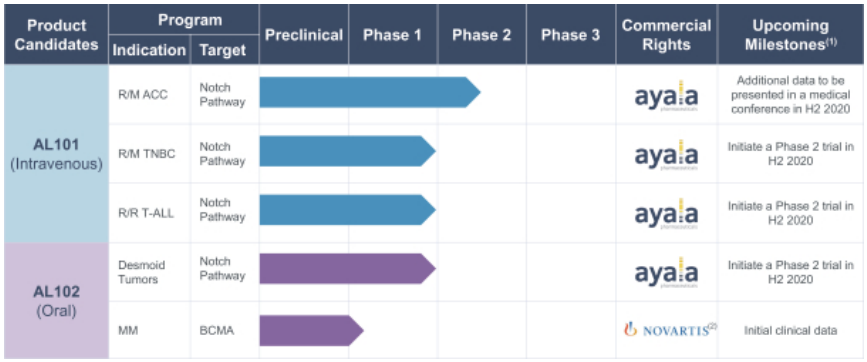
adult patients and 20% of pediatric patients will relapse following first-line therapy. In the Phase 1 study of AL101, which included 26 unselected, heavily pretreated evaluable T-ALL subjects treated with 4 mg or 6 mg dose levels, a CR was observed in two T-ALL subjects and a PR was observed in one T-ALL subject. Of the three T-ALL subjects who displayed a response, two had a confirmed Notch-activating mutation. Based on these findings and supporting data from our preclinical studies, we intend to commence a Phase 2 clinical trial of AL101 for the treatment of R/R T-ALL in the second half of 2020, subject to the impact of COVID-19 on our business.

Our second product candidate, AL102, is being developed as a potent, selective, oral GSI. We obtained an exclusive, worldwide license to develop and commercialize AL102 from BMS in November 2017. We are currently developing AL102 for the treatment of desmoid tumors, which are rare, disfiguring and often debilitating types of soft tissue tumors. Desmoid tumors have an annual incidence of approximately 1,700 patients in the United States. There are currently no FDA-approved therapies for patients with desmoid tumors. Given the slowly progressive nature of the disease, we believe these patients will be best served by an oral therapy. BMS conducted a Phase 1 study of AL102 in 36 unselected, heavily pretreated subjects. While this Phase 1 study did not report statistically significant overall results, the study included one subject with desmoid tumors who was observed to have SD for over six months. We believe that GSIs have the potential to treat patients with desmoid tumors based on data from multiple clinical evaluations, including data from three patients with desmoid tumors evaluated in a Phase 1 study of AL101 conducted by BMS. We are leveraging these findings and, subject to the impact of COVID-19 on our business, intend to commence a Phase 2 clinical trial of AL102 for the treatment of desmoid tumors in the second half of 2020.

In addition, we are collaborating with Novartis International Pharmaceutical Limited, or Novartis, to develop AL102 for the treatment of multiple myeloma, or MM, in combination with Novartis' B-cell maturation antigen, or BCMA, targeting therapies. We granted Novartis the exclusive ability to evaluate, develop and potentially license and commercialize AL102 as a monotherapy and in combination with other therapies for the treatment of MM. Novartis conducted a preclinical study evaluating AL102 alone and in combination with Novartis' bi-specific antibody. Using a cell line model of human MM, Novartis' study showed that treatment with AL102 resulted in an approximate 20-fold increase in the levels of cell surface expression of BCMA. Further, using human MM cells from donors, Novartis' study showed that AL102 enhanced BCMA-CD3 bi-specific antibody redirected t-cell cytotoxicity activity *in vitro*. We believe that the clinical activity of BCMA-targeting agents may also be enhanced in clinical trials when used in combination with a GSI such as AL102.

Our product candidates have been or are being evaluated in clinical trials at leading oncology centers across the United States, including MD Anderson Cancer Center, Memorial Sloan Kettering Cancer Center and Massachusetts General Hospital, and in centers in Canada, Israel and Europe, including Gustave Roussy in France.

The following chart summarizes our current portfolio of product candidates:



(1) Anticipated clinical milestones are subject to the impact of COVID-19 on our business.
(2) If Novartis exercises its option to license AL102 for the treatment of MM, we will be entitled to receive from Novartis an exercise fee and may be entitled to receive from Novartis certain development, regulatory and commercial milestone payments as well as tiered royalties on net sales of licensed products. For more information, please see "Business—License Agreements". Phase 1 study with bi-specific anti-BCMA is ongoing but dosing of AL102 has not yet been initiated.

Our History and Team

We were founded in November 2017 when we acquired an exclusive, worldwide license to AL101 and AL102, previously called BMS-906024 and BMS-986115, from BMS. We have assembled a team with extensive experience in building and operating clinical and commercial organizations, particularly in oncology and rare diseases. Our Chief Executive Officer, Roni Mamluk, Ph.D., has extensive experience in the biopharmaceutical industry and has led our business since its inception. Our Chief Medical Officer, Gary Gordon, M.D., Ph.D., is an oncologist with clinical research experience from John Hopkins School of Medicine and in oncology drug development roles at AbbVie, Inc. Dr. Gordon was involved in the development and commercialization plans for venetoclax, celecoxib and veliparib. Members of our management team have held leadership positions at companies that have successfully discovered, acquired, developed and commercialized therapies for a range of rare diseases and cancers, including Chiasma Inc., Adnexus Therapeutics, Inc., AbbVie Inc., Abbott Laboratories, Protalix Biotherapeutics, Inc. and Teva Pharmaceutical Industries Ltd.

We have raised $46.3 million of capital since our inception. Our shareholders include BMS, Novartis and prominent investors such as Israel Biotech Fund, aMoon Fund, Harel Insurance and Finance and SBI Investments.

Our Targeted Approach to Treating Rare Cancers

- *Target indications in which Notch is a known tumorigenic driver*
- *Validate indications via PDX models*
- *Target indications with high unmet medical need and pursue expedited regulatory pathways*
- *Expand our addressable patient population*

Our Strategy

- *Rapidly advance the clinical development of AL101 for the treatment of R/M ACC*
- *Rapidly advance the clinical development of AL101 for the treatment of R/M TNBC and R/R T-ALL*
- *Rapidly advance the clinical development of AL102 for the treatment of desmoid tumors*
- *Collaborate with select diagnostic developers to identify and expand our addressable patient population*
- *Commercialize our product candidates, if approved, to address the unmet medical need of underserved patient populations with rare and aggressive cancers*
- *Evaluate strategic collaborations to maximize the potential of our portfolio*

Recent Developments

COVID-19 Pandemic

As we continue to actively advance all our clinical programs, including our ongoing Phase 2 ACCURACY trial, we are in close contact with our principal investigators and clinical sites, which are primarily located in the United States, France, Israel, Canada and the United Kingdom, and are assessing the impact of COVID-19 on our Phase 2 ACCURACY trial and the expected development timelines and costs of all of our product candidates, on an ongoing basis. In light of recent developments relating to the COVID-19 global pandemic, the focus of healthcare providers and hospitals on fighting the virus, and consistent with the FDA's updated industry guidance for conducting clinical trials issued on March 18, 2020, we are experiencing some delays in the enrollment of patients at certain sites conducting our Phase 2 ACCURACY trial. In addition, in response to the spread of COVID-19, the Israeli government ordered the closure of all non-essential businesses on March 14, 2020. Because of the nature of our operations, we are currently considered to be an essential business in Israel so, to date, our operations have only been partially affected. We will continue to evaluate the impact of the COVID-19 pandemic on our business and expect to reevaluate the timing of our anticipated clinical milestones as we learn more and the impact of COVID-19 on our industry becomes more clear.

Preliminary Financial Results

As of March 31, 2020, we had cash and cash equivalents and short-term restricted bank deposits of $10.1 million.

Risk Factors

Our business is subject to a number of risks of which you should be aware before making an investment decision. These risks are discussed more fully in the "Risk Factors" section of this prospectus immediately following this prospectus summary. These risks include the following:

- We have incurred significant losses since inception and anticipate that we will continue to incur losses for the foreseeable future. We are not currently profitable, and we may never achieve or sustain profitability. If we are unable to achieve or sustain profitability, the market value of our common stock will likely decline;
- Even if this offering is successful, we will require additional capital to fund our operations, and if we fail to obtain necessary financing, we may not be able to complete the development and commercialization of AL101 and AL102;
- Raising additional capital may cause dilution to our stockholders, including purchasers of common stock in this offering, restrict our operations or require us to relinquish rights to our technologies or product candidates;

- Our recurring losses from operations could continue to raise substantial doubt regarding our ability to continue as a going concern. Our ability to continue as a going concern requires that we obtain sufficient funding to finance our operations;
- We have a limited operating history and no history of commercializing pharmaceutical products, which may make it difficult to evaluate the prospects for our future viability;
- We are heavily dependent on the success of AL101 and AL102, our most advanced product candidates, which are still under clinical development, and if either AL101 or AL102 does not receive regulatory approval or is not successfully commercialized, our business may be harmed;
- We may be required to make significant payments under our license of AL101 and AL102 from BMS;
- We will need to expand our organization, and we may experience difficulties in managing this growth, which could disrupt our operations;
- The outbreak of the novel strain of coronavirus disease, COVID-19, may adversely impact our business, including our clinical trials;
- Our ability to use our net operating loss carryforwards to offset future taxable income may be subject to certain limitations;
- Our product candidates are designed for patients with genetically defined cancers, which is a rapidly evolving area of science, and the approach we are taking to discover and develop product candidates is novel and may never lead to marketable products;
- Clinical trials are expensive, time-consuming and difficult to design and implement, and involve an uncertain outcome;
- Enrollment and retention of patients in clinical trials is an expensive and time-consuming process and could be made more difficult or rendered impossible by multiple factors outside our control;
- Our product candidates may cause serious adverse events or undesirable side effects, which may delay or prevent marketing approval, or, if approved, require them to be taken off the market, require them to include safety warnings or otherwise limit their sales;
- We may not be successful in developing, or collaborating with others to develop, diagnostic tests to identify patients with Notch-activating mutations; and
- If we are unable to obtain, maintain, protect and enforce patent and other intellectual property protection for our technology and products or if the scope of the patent or other intellectual property protection obtained is not sufficiently broad, our competitors could develop and commercialize products and technology similar or identical to ours, and we may not be able to compete effectively in our markets.

Implications of Being an Emerging Growth Company

We are an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. As such, we may take advantage of certain exemptions from various reporting requirements that are applicable to other publicly-traded entities that are not emerging growth companies. These exemptions include:

- the option to present only two years of audited financial statements and only two years of related “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in this prospectus;
- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended;

- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements (i.e., an auditor discussion and analysis);
- not being required to submit certain executive compensation matters to stockholder advisory votes, such as "say-on-pay," "say-on-frequency," and "say-on-golden parachutes;" and
- not being required to disclose certain executive compensation-related items such as the correlation between executive compensation and performance and comparisons of the chief executive officer's compensation to median employee compensation.

We may take advantage of these provisions until the last day of our fiscal year following the fifth anniversary of the completion of this offering. However, if any of the following events occurs prior to the end of such five-year period, (i) our annual gross revenue exceeds $1.07 billion, (ii) we issue more than $1.0 billion of non-convertible debt in any three-year period or (iii) we become a "large accelerated filer" (as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended, or the Exchange Act), we will cease to be an emerging growth company prior to the end of such five-year period. We will be deemed to be a "large accelerated filer" at such time that we (a) have an aggregate worldwide market value of common equity securities held by non-affiliates of $700.0 million or more as of the last business day of our most recently completed second fiscal quarter, (b) have been required to file annual and quarterly reports under the Exchange Act, for a period of at least 12 months and (c) have filed at least one annual report pursuant to the Exchange Act. Even after we no longer qualify as an emerging growth company, we may still qualify as a "smaller reporting company," which would allow us to take advantage of many of the same exemptions from disclosure requirements including reduced disclosure obligations regarding executive compensation in this prospectus and our periodic reports and proxy statements.

We have elected to take advantage of certain of the reduced disclosure obligations in the registration statement of which this prospectus is a part and may elect to take advantage of other reduced reporting requirements in future filings. As a result, the information that we provide to our stockholders may be different than you might receive from other public reporting companies in which you hold equity interests.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. We have elected to take advantage of this extended transition period. As a result, our financial statements may not be comparable to companies that comply with new and revised accounting standards as of public company effective dates.

Corporate Information

We were incorporated under the laws of the state of Delaware in November 2017. Our principal executive offices are located at Oppenheimer 4, Rehovot 7670104, Israel, and our telephone number is +972-8-373-1541. Our website address is *www.ayalapharma.com*. The information contained in, or accessible through, our website does not constitute a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

The Offering

Common stock offered by us	3,333,334 shares.
Common stock to be outstanding after this offering	12,113,278 shares (or 12,613,278 shares if the underwriters exercise in full their option to purchase additional shares of our common stock).
Option to purchase additional shares	The underwriters have a 30-day option to purchase up to 500,000 additional shares of our common stock at the public offering price less underwriting discounts and commissions.
Use of proceeds	We estimate that the net proceeds from this offering will be approximately $44.4 million (or approximately $51.3 million if the underwriters exercise in full their option to purchase additional shares of our common stock), at an assumed public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us. We anticipate that we will use the net proceeds of this offering, together with our existing cash and cash equivalents and short-term restricted bank deposits, to advance the clinical development of AL101 and AL102 and the remainder for working capital and general corporate purposes. See “Use of Proceeds” beginning on page 78 for additional information.
Risk factors	You should carefully read the “Risk Factors” beginning on page 12 and the other information included in this prospectus for a discussion of factors you should consider carefully before deciding to invest in our common stock.
Proposed Nasdaq Global Market symbol	“AYLA”

The number of shares of our common stock to be outstanding after this offering is based on 5,064,722 shares of our common stock outstanding as of March 31, 2020, which includes 60,561 shares of unvested restricted stock subject to repurchase and excludes:

- 652,187 shares of common stock issuable upon exercise of stock options outstanding under our 2017 Stock Incentive Plan, or our 2017 Plan, as of March 31, 2020, at a weighted-average exercise price of $5.14 per share;
- 47,299 additional shares of common stock issuable upon the exercise of stock options to be granted in connection with this offering under the 2017 Plan, to certain of our executive officers and employees, at an exercise price per share equal to the initial public offering price in this offering;
- 58,651 additional shares of common stock issued pursuant to restricted stock grants to be granted in connection with the offering under the 2017 Plan, to certain of our executive officers and employees, at a per share price equal to the initial public offering price in this offering; and
- 1,327,825 shares of our common stock reserved for future issuance under our 2017 Plan, as amended and restated in connection with this offering, or the Amended 2017 Plan, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under the Amended 2017 Plan.

Unless otherwise indicated, this prospectus reflects and assumes the following:

- a one-for-two reverse stock split of our common stock which became effective on May 4, 2020;

- the automatic conversion of all outstanding shares of our Series A preferred stock and Series B preferred stock into an aggregate of 3,715,222 shares of our common stock upon the closing of this offering;
- no exercise of outstanding options after March 31, 2020;
- no exercise by the underwriters of their option to purchase additional shares of our common stock; and
- the filing of our restated certificate of incorporation, which will occur upon the closing of this offering.

Summary Consolidated Financial Data

The following tables set forth our summary consolidated financial data as of, and for the periods ended on, the dates indicated. We have derived the consolidated statements of operations data for the years ended December 31, 2018 and 2019 and the consolidated balance sheet data as of December 31, 2019 from our audited consolidated financial statements included elsewhere in this prospectus. Our historical results are not necessarily indicative of the results that should be expected for any future period. You should read the following summary consolidated financial data together with the more detailed information contained in "Selected Consolidated Financial Data," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and the related notes included elsewhere in this prospectus.

	Year Ended December 31,	
	2018	2019
	(in thousands, except share and per share data)	
Consolidated Statement of Operations and Comprehensive Loss Data:		
Revenue from license agreement	$ —	$ 2,334
Cost of revenue	—	(1,285)
Gross profit	—	1,049
Operating expenses:		
Research and development	5,741	14,424
General and administrative	3,294	4,336
Operating loss	(9,035)	(17,711)
Other non-operating income (expense):		
Financial income, net	448	225
Loss before income tax	(8,587)	(17,486)
Taxes on income	(286)	(306)
Net loss attributable to common stockholders	$ (8,873)	$ (17,792)
Net loss attributable to common stockholders, basic(1)	$ (8,873)	$ (17,792)
Net loss per share attributable to common stockholders, basic(1)	$ (1.80)	$ (3.57)
Weighted average common stock outstanding, basic(1)	4,935,897	4,979,606
Pro forma net loss per share attributable to common stockholders, basic and diluted(1)	$ (1.31)	$ (2.07)
Pro forma weighted average common stock outstanding, basic and diluted(1)	6,771,411	8,580,349

(1) See Note 2 to our consolidated financial statements included elsewhere in this prospectus for an explanation of the method used to calculate the historical and pro forma basic and diluted net loss per share of common stock and the weighted average number of shares used in the computation of the per share amounts.

	As of December 31, 2019		
	Actual	Pro Forma(1)	Pro Forma As Adjusted(2)(3)
		(in thousands)	
Consolidated Balance Sheet Data:			
Cash and cash equivalents and short-term restricted bank deposits	$ 16,808 (5)	$ 16,808	$ 61,173
Working capital(4)	12,392	12,392	57,413
Total assets	20,054	20,054	63,763
Convertible preferred stock Series A and B	53,373	—	—
Additional paid-in capital	1,770	55,106	99,437
Accumulated deficit	(40,741)	(40,741)	(40,741)
Total stockholders' (deficit) equity	$(38,920)	$ 14,453	$ 58,818

(1) The pro forma consolidated balance sheet data gives effect to the automatic conversion of all outstanding shares of our Series A preferred stock and Series B preferred stock into an aggregate of 3,715,222 shares of common stock, which will occur upon the closing of this offering; and

(2) Reflects the pro forma adjustments described in footnote (1) and the issuance and sale of shares of common stock in this offering at an assumed initial public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us.

(3) Each $1.00 increase (decrease) in the assumed initial public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash and cash equivalents and short-term restricted bank deposits, working capital, total assets, additional paid-in capital and total stockholders' (deficit) equity by $3.1 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us. Similarly, each increase (decrease) of 1.0 million shares in the number of shares offered by us at the assumed initial public offering price would increase (decrease) each of cash and cash equivalents and short-term restricted bank deposits, working capital, total assets, additional paid-in capital and total stockholders' deficit by $14.0 million. The pro forma information discussed above is illustrative only and will be adjusted based on the actual initial public offering price and other terms of our initial public offering determined at pricing.

(4) We define working capital as current assets less current liabilities. See our consolidated financial statements for further details regarding our current assets and current liabilities.

(5) As of March 31, 2020, cash and cash equivalents and short-term restricted bank deposits was approximately $10.1 million.

RISK FACTORS

You should carefully consider the risks and uncertainties described below and the other information in this prospectus before making an investment in our common stock. Our business, financial condition, results of operations, or prospects could be materially and adversely affected if any of these risks occurs, and as a result, the market price of our common stock could decline and you could lose all or part of your investment. This prospectus also contains forward-looking statements that involve risks and uncertainties. See "Special Note Regarding Forward-Looking Statements." Our actual results could differ materially and adversely from those anticipated in these forward-looking statements as a result of certain factors, including those set forth below.

Risks Related to Our Financial Position and Need for Additional Capital

We have incurred significant losses since inception and anticipate that we will continue to incur losses for the foreseeable future. We are not currently profitable, and we may never achieve or sustain profitability. If we are unable to achieve or sustain profitability, the market value of our common stock will likely decline.

We are a clinical-stage biopharmaceutical company with a limited operating history and have incurred significant losses since our formation. We had a net loss of approximately $8.9 million and $17.8 million for the years ended December 31, 2018 and 2019, respectively. As of December 31, 2019, we had accumulated net losses of approximately $40.7 million. We have not commercialized any products and have never generated revenue from the commercialization of any product. To date, we have devoted most of our financial resources to licensing product candidates and research and development, including our preclinical development activities and clinical trials.

We expect to incur significant operating expenses and increasing net losses for the next several years, at least, as we advance AL101, AL102 and any future product candidate through preclinical and clinical development, seek regulatory approvals and commercialize AL101, AL102 or any other product candidate, if approved. The costs of advancing product candidates into each clinical phase tend to increase substantially over the duration of the clinical development process. Therefore, the total costs to advance any of our product candidates to marketing approval in even a single jurisdiction will be substantial. Because of the numerous risks and uncertainties associated with pharmaceutical product development, we are unable to accurately predict the timing or amount of increased expenses or when, or if, we will be able to begin generating revenue from the commercialization of any products or achieve or maintain profitability. Our expenses will also increase substantially if and as we:

- advance our Phase 2 ACCURACY trial of AL101 for the treatment of recurrent/metastatic adenoid cystic carcinoma, or R/M ACC;
- commence our Phase 2 clinical trials of AL101 for the treatment of recurrent/metastatic triple negative breast cancer, or R/M TNBC, or relapsed/refractory T-cell acute lymphoblastic leukemia, or R/R T-ALL, initiate clinical trials of AL102 for the treatment of desmoid tumors, or obtain and conduct clinical trials for any other product candidates;
- assuming successful completion of our Phase 2 ACCURACY trial of AL101 for the treatment of R/M ACC, are required by the U.S. Food and Drug Administration, or FDA, to complete Phase 3 clinical trials to support submission of a New Drug Application, or NDA, of AL101 for the treatment of R/M ACC;
- develop AL101 or AL102 for other indications and develop other product candidates;
- establish a sales, marketing and distribution infrastructure to commercialize AL101 and/or AL102, if approved, and for any other product candidates for which we may obtain marketing approval;
- maintain, expand and protect our intellectual property portfolio;
- hire additional clinical, scientific and commercial personnel;

- add operational, financial and management information systems and personnel, including personnel to support our product development and planned future commercialization efforts, as well as to support our transition to a public reporting company; and
- acquire or in-license other product candidates or technologies.

Furthermore, our ability to successfully develop, commercialize and license any product candidates and generate product revenue is subject to substantial additional risks and uncertainties, as described under "—Risks Related to Development, Clinical Testing, Manufacturing and Regulatory Approval" and "—Risks Related to Commercialization." As a result, we expect to continue to incur net losses and negative cash flows for the foreseeable future. These net losses and negative cash flows have had, and will continue to have, an adverse effect on our stockholders' equity and working capital. The amount of our future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenues. If we are unable to develop and commercialize one or more product candidates, either alone or through collaborations, or if revenues from any product that receives marketing approval are insufficient, we will not achieve profitability. Even if we do achieve profitability, we may not be able to sustain profitability or meet outside expectations for our profitability. If we are unable to achieve or sustain profitability or to meet outside expectations for our profitability, the value of our common stock will be materially and adversely affected.

Even if this offering is successful, we will require additional capital to fund our operations, and if we fail to obtain necessary financing, we may not be able to complete the development and commercialization of AL101 and AL102.

We expect to spend substantial amounts of capital to complete the development of, seek regulatory approvals for and, if approved, commercialize AL101 and AL102. These expenditures will include costs related to our Phase 2 ACCURACY trial and potential Phase 3 clinical development of AL101 for the treatment of R/M ACC, and costs associated with our license agreement with Bristol-Myers Squibb Company, or BMS, under which we are obligated to make milestone payments, royalty payments in connection with the sale of resulting products and payments consisting of a portion of all consideration we receive in connection with the sublicense or assignment of any patent rights we licensed from BMS. For more information regarding this agreement, please see "Business—License Agreements."

We anticipate that we will use the net proceeds of this offering, together with our existing cash and cash equivalents and short-term restricted bank deposits, to advance the clinical development of AL101 and AL102 and the remainder, if any, for working capital and general corporate purposes.

Even with the net proceeds of this offering, we will require additional capital to enable us to complete the development and commercialization of AL101 for the treatment of R/M ACC, R/M TNBC and R/R T-ALL, AL102 for the treatment of desmoid tumors and any other potential indications, if approved, which we may obtain through equity offerings, debt financings, marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements or other sources. Adequate additional financing may not be available to us on acceptable terms, or at all. Our failure to raise capital as and when needed would have a negative effect on our financial condition and our ability to pursue our business strategy. In addition, attempting to secure additional financing may divert the time and attention of our management from day-to-day activities and harm our development efforts.

Based upon our current operating plan, we believe that the net proceeds from this offering and our existing cash and cash equivalents and short-term restricted bank deposits will enable us to fund our operating expenses and capital expenditure requirements into the second half of 2022. This estimate and our expectation regarding the sufficiency of the net proceeds of this offering to advance the clinical development of AL101 and AL102 are based on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect, or our ongoing and planned Phase 2 clinical trials may be more expensive, time-consuming

or difficult to design or implement than we currently anticipate. Changing circumstances could cause us to consume capital significantly faster than we currently anticipate, and we may need to spend more than currently expected because of circumstances beyond our control. Because the length of time and activities associated with successful development of AL101 and AL102 is highly uncertain, we are unable to estimate the actual funds we will require for development and any approved marketing and commercialization activities. Our future funding requirements, both near and long-term, will depend on many factors, including, but not limited to:

- the progress, timing, costs and results of our Phase 2 ACCURACY trial of AL101 for the treatment of R/M ACC, additional development plans for AL101, development plans for AL102 and the development of any future product candidates, including any unforeseen costs we may incur as a result of clinical trial delays due to the COVID-19 pandemic or other causes;
- the outcome, timing and cost of meeting regulatory requirements established by the FDA and other comparable foreign regulatory authorities;
- the cost of filing, prosecuting, defending and enforcing our patent claims and other intellectual property rights;
- the cost and timing of completion of commercial-scale manufacturing activities;
- the cost of testing drug substances and drug products at release and during stability programs;
- the cost of defending potential intellectual property disputes, including patent infringement actions brought by third parties against us;
- the effect of competing technological and market developments;
- the costs of operating as a public company;
- the extent to which we in-license or acquire other product candidates or technologies;
- the cost of establishing sales, marketing and distribution capabilities for AL101 and AL102;
- the timing and amount of milestone, royalty and other payments that we may receive or that we may be required to make under our license agreements;
- our ability to establish and maintain collaborations on favorable terms, if at all;
- the costs associated with potential product liability claims, including the costs associated with obtaining insurance against such claims and with defending against such claims; and
- the initiation, progress and timing of our commercialization of AL101 and AL102, if approved.

If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development or commercialization of AL101 and AL102 or potentially discontinue operations.

Raising additional capital may cause dilution to our stockholders, including purchasers of common stock in this offering, restrict our operations or require us to relinquish rights to our technologies or product candidates.

Until such time, if ever, as we can generate sufficient revenue to support our operations, we may finance our cash needs through a combination of equity offerings, debt financings, marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements or other sources. We do not currently have any committed external source of funds. In addition, we may seek additional capital due to favorable market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans.

To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences

that adversely affect your rights as a common stockholder. Debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements with third parties, we may be required to relinquish valuable rights to our technologies, intellectual property, future revenue streams or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate product candidate development or future commercialization efforts.

Our recurring losses from operations could continue to raise substantial doubt regarding our ability to continue as a going concern. Our ability to continue as a going concern requires that we obtain sufficient funding to finance our operations.

We have incurred significant operating losses since our inception and have never generated product revenue, and it is possible we will never generate product revenue or profit. Accordingly, we have concluded that substantial doubt exists regarding our ability to continue as a going concern. Meaningful revenues will likely not be available until and unless any current or future product candidate is approved by the FDA or comparable regulatory agencies in other countries and successfully marketed, either by us or a partner, an outcome which may not occur. Our audited financial statements appearing at the end of this prospectus have been prepared on a going concern basis, which contemplates the realization of assets and satisfaction of liabilities in the ordinary course of business. These financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might result from the outcome of these uncertainties related to our ability to operate on a going concern basis. In its report on our financial statements for the years ended December 31, 2018 and 2019, our independent registered public accounting firm included an explanatory paragraph stating that our recurring losses from operations and negative cash flows since inception and our need to raise additional funding to finance our operations raise substantial doubt about our ability to continue as a going concern. The perception that we may not be able to continue as a going concern may cause others to choose not to deal with us due to concerns about our ability to meet our contractual obligations.

Our ability to continue as a going concern requires that we obtain sufficient funding to finance our operations. If we are unable to obtain sufficient funding, our business, prospects, financial condition and results of operations will be materially and adversely affected and we may be unable to continue as a going concern. If we are unable to continue as a going concern, we may have to liquidate our assets and may receive less than the value at which those assets are carried on our audited financial statements, and it is likely that investors will lose all or a part of their investment. If we seek additional financing to fund our business activities in the future and there remains substantial doubt about our ability to continue as a going concern, investors or other financing sources may be unwilling to provide additional funding to us on commercially reasonable terms or at all.

We have a limited operating history and no history of commercializing pharmaceutical products, which may make it difficult to evaluate the prospects for our future viability.

We were established and began operations in November 2017. Our operations to date have been limited to financing and staffing our company, licensing product candidates, developing AL101 for the treatment of R/M ACC, R/M TNBC and R/R T-ALL, developing AL102 for the treatment of desmoid tumors, and conducting preclinical studies and clinical trials of AL101 and AL102. We have not yet demonstrated the ability to successfully complete a large-scale, pivotal clinical trial, obtain marketing approval, manufacture a commercial scale product, or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Consequently, predictions about our future success or viability may not be as accurate as they could be if we had a longer operating history or a history of successfully developing and commercializing pharmaceutical products.

In addition, as a business with a limited operating history, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors. We will eventually need to transition from a company with a research and development focus to a company capable of supporting commercial activities. We may not be successful in such a transition and, as a result, our business may be adversely affected.

As we continue to build our business, we expect our financial condition and operating results may fluctuate significantly from quarter to quarter and year to year due to a variety of factors, many of which are beyond our control. Accordingly, you should not rely upon the results of any particular quarterly or annual period as indications of future operating performance.

We are heavily dependent on the success of AL101 and AL102, our most advanced product candidates, which are still under clinical development, and if either AL101 or AL102 does not receive regulatory approval or is not successfully commercialized, our business may be harmed.

To date, we have invested a significant portion of our efforts and financial resources in the development of AL101 for the treatment of R/M ACC, R/M TNBC and R/R T-ALL and in the development of AL102 for the treatment of desmoid tumors and MM. Our future success is substantially dependent on our ability to successfully complete clinical development for, obtain regulatory approval for and successfully commercialize AL101 and AL102, which may never occur. We currently have no products that are approved for commercial sale and may never be able to develop a marketable product. We expect that a substantial portion of our efforts and expenditures over the next few years will be devoted to AL101 and AL102, which will require additional clinical development, management of clinical and manufacturing activities, regulatory approval in multiple jurisdictions, obtaining manufacturing supply, building of a commercial organization, substantial investment and significant marketing efforts before we can generate any revenues from any commercial sales. We cannot be certain that we will be able to successfully complete any of these activities.

The research, testing, manufacturing, labeling, approval, sale, marketing and distribution of drug products are subject to extensive regulation by the FDA and comparable foreign regulatory authorities. We are not permitted to market AL101 and AL102 in the United States until we receive approval of an NDA from the FDA, or in any foreign countries until we receive the requisite approval from such countries. We have not submitted an NDA to the FDA or comparable applications to other regulatory authorities for AL101 and AL102 and may not be in a position to do so for several years, if ever. If we are unable to obtain the necessary regulatory approvals for AL101 or AL102, we will not be able to commercialize AL101 and AL102 and our financial position will be materially adversely affected and we may not be able to generate sufficient revenue to continue our business.

We may be required to make significant payments under our license of AL101 and AL102 from BMS.

In November 2017, we licensed rights to AL101 and AL102 pursuant to a license agreement with BMS, or the BMS License Agreement. Under the BMS License Agreement, we are subject to significant obligations, including milestone payments, royalty payments on product sales and clinical development obligations, as well as other material obligations. Under the BMS License Agreement, we will be obligated to pay BMS fixed royalty payments that could range from a high single-digit to a low teen percentage on net sales of products containing AL101 or AL102, as well as a portion of all consideration we receive in connection with the sublicense or assignment of any patent rights we licensed from BMS, ranging from a mid-teen to mid-double-digit percentage, depending on the development stage of the most advanced product candidate that is subject to the applicable sublicense or assignment. For more information regarding the BMS License Agreement, please see “Business—License Agreements.” If these payments become due under the terms of the BMS License Agreement, we may not have sufficient funds available to meet our obligations and our development efforts may be materially harmed. Furthermore, if we are forced to raise additional funds, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts, or grant rights to develop and market product candidates that we would otherwise develop and market ourselves.

Due to our limited resources and access to capital, we must prioritize development of certain programs and product candidates; these decisions may prove to be wrong and may adversely affect our business.

We may fail to identify and acquire, through purchase or license, viable new product candidates for clinical development for a number of reasons. If we fail to identify and acquire additional product candidates, our business could be materially harmed.

Efforts to identify and pursue new product candidates and disease targets require substantial technical, financial and human resources, regardless of whether they are ultimately successful. Programs may initially show promise in preclinical studies, yet fail to yield positive results during clinical development for a number of reasons, including:

- the methodology used may not be successful in identifying potential indications and/or product candidates; or
- product candidates may, after further study, be shown to have harmful adverse effects or other characteristics that indicate they are unlikely to be effective products.

Because we have limited financial and human resources, we intend to initially focus on programs and product candidates for a limited set of indications. As a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications with our existing product candidates that may later prove to have greater commercial potential or a greater likelihood of success. We may focus our efforts and resources on potential product candidates or other potential programs that ultimately prove to be unsuccessful.

We will need to expand our organization, and we may experience difficulties in managing this growth, which could disrupt our operations.

As of December 31, 2019, we had 29 employees. We expect to experience significant growth in the number of our employees and the scope of our operations, particularly in the areas of product candidate development, regulatory affairs and sales and marketing. We may have difficulty identifying, hiring and integrating new personnel. Future growth would impose significant additional responsibilities on our management, including the need to identify, recruit, maintain, motivate and integrate additional employees, consultants and contractors. Also, our management may need to divert a disproportionate amount of its attention away from our day-to-day activities and devote a substantial amount of time to managing these growth activities. We may not be able to effectively manage the expansion of our operations, which may result in weaknesses in our infrastructure, give rise to operational mistakes, loss of business opportunities, loss of employees and reduced productivity among remaining employees. Our expected growth could require significant capital expenditures and may divert financial resources from other projects, such as the development of product candidates. If our management is unable to effectively manage our growth, our expenses may increase more than expected, our ability to generate and/or grow revenues could be reduced, and we may not be able to implement our business strategy. Our future financial performance and our ability to commercialize our product candidates and compete effectively will depend, in part, on our ability to effectively manage any future growth.

Many of the biotechnology companies that we compete against for qualified personnel and consultants have greater financial and other resources, different risk profiles and a longer history in the industry than we do. If we are unable to continue to attract and retain high-quality personnel and consultants, the rate and success at which we can discover and develop product candidates and operate our business will be limited.

The outbreak of the novel coronavirus disease, COVID-19, may adversely affect our business, including our clinical trials.

In December 2019, a novel strain of coronavirus, COVID-19, was identified in Wuhan, China. This virus continues to spread globally and, as of May 2020, has spread to a number of countries, including the

United States and Israel. The outbreak and government measures taken in response have also had a significant impact, both direct and indirect, on businesses and commerce, as worker shortages have occurred; supply chains have been disrupted; facilities and production have been suspended; and demand for certain goods and services, such as medical services and supplies, has spiked, while demand for other goods and services, such as travel, has fallen. In response to the spread of COVID-19, we temporarily closed our executive offices with our administrative employees continuing their work outside of our offices. In addition, we have modified our business practices, including restricting employee travel, developing social distancing plans for our employees and canceling physical participation in meetings, events and conferences. As a result of the COVID-19 pandemic, we may experience additional disruptions that could severely impact our business, preclinical studies and clinical trials, including:

- delays or difficulties in enrolling patients in our clinical trials;
- delays or difficulties in clinical site initiation, including difficulties in recruiting clinical site investigators and clinical site staff;
- diversion of healthcare resources away from the conduct of clinical trials, including the diversion of hospitals serving as our clinical trial sites and hospital staff supporting the conduct of our clinical trials;
- interruption of key clinical trial activities, such as clinical trial site data monitoring, due to limitations on travel imposed or recommended by federal or state governments, employers and others or interruption of clinical trial subject visits and study procedures (such as endoscopies that are deemed non-essential), which may impact the integrity of subject data and clinical study endpoints;
- interruption or delays in the operations of the FDA or other regulatory authorities, which may impact review and approval timelines;
- interruption of, or delays in receiving, supplies of our product candidates from our contract manufacturing organizations due to staffing shortages, production slowdowns or stoppages and disruptions in delivery systems;
- limitations on employee resources that would otherwise be focused on the conduct of our clinical trials, including because of sickness of employees or their families or the desire of employees to avoid contact with large groups of people; and
- interruption or delays to our sourced discovery and clinical activities.

In addition, the outbreak and the resulting government actions may adversely impact our planned and ongoing clinical trials. Clinical site initiation, including difficulties in recruiting clinical site investigators and clinical site staff, and patient enrollment may be delayed due to prioritization of hospital resources toward the COVID-19 pandemic. Some patients may not be willing and/or able to comply with clinical trial protocols due to the COVID-19 pandemic, particularly if quarantines impede patient movement or interrupt healthcare services. Similarly, our ability to recruit and retain patients and principal investigators and site staff who, as healthcare providers, may have heightened exposure to COVID-19 may be impeded, which would adversely impact our clinical trial operations. The diversion of healthcare resources away from the conduct of clinical trials to focus on pandemic concerns, including the attention of physicians serving as our clinical trial investigators and hospitals serving as our clinical trial sites, diversion of hospitals and medical centers or sites serving as our clinical trial sites and hospital or other staff supporting the conduct of our clinical trials may significantly disrupt our research activities. As a result, the expected timeline for data readouts of our clinical trials and certain regulatory filings will likely be negatively impacted, which would adversely affect and delay our ability to obtain regulatory approvals for our product candidates, increase our operating expenses and have a material adverse effect on our financial condition.

Furthermore, the response to the COVID-19 pandemic may redirect resources with respect to regulatory matters and intellectual property matters in a way that would adversely impact our ability to progress regulatory approvals and protect our intellectual property. In addition, we may face impediments to regulatory meetings and

approvals due to measures intended to limit in-person interactions. For example, the FDA postponed most inspections of foreign manufacturing facilities and products and postponed routine surveillance inspections of domestic manufacturing facilities. Comparable regulatory authorities in other jurisdictions may adopt similar restrictions or other policy measures in response to the COVID-19 pandemic and provide guidance regarding the conduct of clinical trials. If global health concerns continue to prevent the FDA or other regulatory authorities from conducting their regular inspections, reviews or other regulatory activities, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

The COVID-19 pandemic continues to rapidly evolve. The extent to which the outbreak impacts our business, preclinical studies and clinical trials will depend on future developments, which are highly uncertain and cannot be predicted with confidence, such as the ultimate geographic spread of the disease, the duration of the pandemic, travel restrictions and social distancing in the United States Canada, Europe, Israel and other countries, business closures or business disruptions and the effectiveness of actions taken in the United States, Canada, Europe, Israel and other countries to contain and treat the disease. As a result, the COVID-19 pandemic could have a material adverse effect on our business, results of operations, financial condition and prospects and heighten many of our known risks described in this “Risk Factors” section.

Our ability to use our net operating loss carryforwards to offset future taxable income may be subject to certain limitations.

As of December 31, 2019, we had net operating loss carryforwards, or NOLs, of $23.9 million for federal income tax purposes and $10.9 million for state income tax purposes, which may be available to offset our future taxable income, if any, and begin to expire in various amounts in 2037 and 2038, respectively, provided that NOLs generated in tax years ending after December 31, 2017 will not be subject to expiration. In general, under Sections 382 and 383 of the U.S. Internal Revenue Code of 1986, as amended, or the Code, a corporation that undergoes an “ownership change” is subject to limitations on its ability to use its pre-change NOLs to offset future taxable income. If the U.S. Internal Revenue Service challenges our determinations with respect to the existence of previous ownership changes or the effects thereof, or if we undergo an ownership change due to this offering, our ability to use our NOLs could be limited by Section 382 of the Code. Future changes in our stock ownership, some of which are outside of our control, could also result in an ownership change under Sections 382 and 383 of the Code. In addition, for taxable years beginning after December 31, 2020, utilization of federal NOLs generated in tax years beginning after December 31, 2017 are limited to a maximum of 80% of the taxable income for such year, after taking into account utilization of NOLs generated in years beginning before January 1, 2018 and determined without regard to such NOL deduction. Furthermore, our ability to use NOLs of companies that we may acquire in the future may be subject to limitations. For these reasons, we may not be able to use a material portion of the NOLs, even if we attain profitability. The reduction of the corporate tax rate under recently-enacted U.S. tax legislation may cause a reduction in the economic benefit of our NOLs and other deferred tax assets available to us.

Risks Related to Development, Clinical Testing, Manufacturing and Regulatory Approval

Our product candidates are designed for patients with genetically defined cancers, which is a rapidly evolving area of science, and the approach we are taking to discover and develop product candidates is novel and may never lead to marketable products.

The discovery and development of targeted therapies for patients with genetically defined cancers is an emerging field, and the scientific discoveries that form the basis for our efforts to discover and develop product candidates are relatively new. The scientific evidence to support the feasibility of developing product candidates based on these discoveries is both preliminary and limited. The patient populations for our product candidates are not completely defined but are substantially smaller than the general treated cancer population, and we will need to screen and identify these patients. Successful identification of patients is dependent on several factors,

including achieving certainty as to how specific genetic alterations respond to our product candidates and developing companion diagnostics to identify such genetic alterations. Furthermore, even if we are successful in identifying patients, we cannot be certain that the resulting patient populations will be large enough to allow us to successfully conduct clinical trials, and if approved, commercialize our products and achieve profitability. Therefore, we do not know if our approach of treating patients with genetically defined cancers will be successful, and if our approach is unsuccessful, our business will suffer.

Clinical trials are expensive, time-consuming and difficult to design and implement, and involve an uncertain outcome.

Before obtaining marketing approval from the FDA or other comparable foreign regulatory authorities for the sale of our product candidates, we must complete preclinical development and extensive clinical trials to demonstrate the safety and efficacy of our product candidates. Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical trial process. We may experience delays in initiating and completing any clinical trials that we are conducting or intend to conduct, including as a result of the COVID-19 pandemic, and we do not know whether our ongoing or planned clinical trials will begin or progress on schedule, need to be redesigned, enroll patients on time or be completed on schedule, or at all. Clinical trials can be delayed for a variety of reasons, including delays related to:

- the FDA or comparable foreign regulatory authorities disagreeing as to the design or implementation of our clinical studies;
- obtaining regulatory authorizations to commence a trial or consensus with regulatory authorities on trials design;
- reaching an agreement on acceptable terms with prospective contract research organizations, or CROs, and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- obtaining Institutional Review Board, or IRB, approval at each site, or Independent Ethics Committee, or IEC, approval at sites outside the United States;
- changes to clinical trial protocols;
- recruiting suitable patients to participate in a trial in a timely manner and in sufficient numbers;
- having patients complete a trial or return for post-treatment follow-up;
- imposition of a clinical hold by regulatory authorities, including as a result of unforeseen safety issues or side effects or failure of trial sites to adhere to regulatory requirements or follow trial protocols;
- clinical sites deviating from trial protocol or dropping out of a trial;
- addressing patient safety concerns that arise during the course of a trial;
- the occurrence of serious adverse events in trials of the same class of agents conducted by other companies;
- subjects choosing an alternative treatment for the indication for which we are developing our product candidates, or participating in competing clinical trials;
- adding a sufficient number of clinical trial sites;
- manufacturing sufficient quantities of product candidate with sufficient quality for use in clinical trials;
- lack of adequate funding to continue the clinical trial;
- selection of clinical end points that require prolonged periods of clinical observation or analysis of the resulting data;

- a facility manufacturing our product candidates or any of their components being ordered by the FDA or comparable foreign regulatory authorities to temporarily or permanently shut down due to violations of current good manufacturing practice, or cGMP, regulations or other applicable requirements, or infections or cross-contaminations of product candidates in the manufacturing process;
- any changes to our manufacturing process that may be necessary or desired;
- third-party clinical investigators losing the licenses or permits necessary to perform our clinical trials, not performing our clinical trials on our anticipated schedule or consistent with the clinical trial protocol, good clinical practices, or GCP, or other regulatory requirements;
- third-party contractors not performing data collection or analysis in a timely or accurate manner; or
- third-party contractors becoming debarred or suspended or otherwise penalized by the FDA or other government or regulatory authorities for violations of regulatory requirements, in which case we may need to find a substitute contractor, and we may not be able to use some or all of the data produced by such contractors in support of our marketing applications.

We could also encounter delays if a clinical trial is suspended or terminated by us, the IRBs or IECs of the institutions in which such trials are being conducted, the Data Safety Monitoring Board, or DSMB, for such trial or the FDA or other regulatory authorities. Such authorities may impose such a suspension or termination due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a drug, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. Furthermore, we rely on CROs and clinical trial sites to ensure the proper and timely conduct of our clinical trials and, while we have agreements governing their committed activities, we have limited influence over their actual performance, as described in "—Risks Related to Our Dependence on Third Parties."

We have limited experience in designing clinical trials and may be unable to design and execute a clinical trial which, if successful, would represent a well-controlled trial for purposes of seeking marketing approval. It may be necessary to re-design our clinical trials, including to conduct clinical trials of our product candidates in combination with other therapies, in an effort to achieve the response rates sufficient to support marketing approval. We cannot be certain that our ongoing or planned clinical trials or any other future clinical trials will be successful. Additionally, any safety concerns observed in any one of our clinical trials in our targeted indications could limit the prospects for regulatory approval of our product candidates in those and other indications, which could seriously harm our business.

Further, conducting clinical trials in foreign countries, as we may do for our product candidates, presents additional risks that may delay completion of our clinical trials. These risks include the failure of enrolled patients in foreign countries to adhere to clinical protocol as a result of differences in healthcare services or cultural customs, managing additional administrative burdens associated with foreign regulatory schemes, as well as political and economic risks relevant to such foreign countries.

Moreover, principal investigators for our clinical trials may serve as scientific advisors or consultants to us from time to time and receive compensation in connection with such services. Under certain circumstances, we may be required to report some of these relationships to the FDA. The FDA may conclude that a financial relationship between us and a principal investigator has created a conflict of interest or otherwise affected interpretation of a clinical trial. The FDA may therefore question the integrity of the data generated at the applicable clinical trial site and the utility of the clinical trial itself may be jeopardized. This could result in a delay in approval, or rejection, of our marketing applications by the FDA and may ultimately lead to the denial of marketing approval of a product candidate.

If we experience delays in the commencement or completion of any clinical trials, or if we terminate a clinical trial prior to completion, the commercial prospects of AL101, AL102 or any other product candidate we develop could be harmed, and our ability to generate revenues may be delayed. In addition, any delays in our clinical trials could increase our costs, slow the development and approval process and jeopardize our ability to commence product sales and generate revenues. Any of these occurrences may harm our business, financial condition and results of operations. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our product candidates.

We were not involved in the early development of our lead product candidates; therefore, we are dependent on third parties having accurately generated, collected and interpreted data from certain preclinical studies and clinical trials for our product candidates.

We licensed exclusive worldwide rights to AL101 and AL102 from BMS in November 2017, and were not involved in or able to control the development of AL101 and AL102 prior to such time. While BMS is contractually obligated to provide all data it generated from preclinical studies and clinical trials conducted for AL101 and AL102 prior to our licensing of such products, in certain instances we are currently reliant upon reports BMS generated analyzing such data. In the event further data is required by a regulatory authority or otherwise in our development of AL101 and/or AL102 and BMS does not comply with its contractual obligation to provide such data, we could incur increased costs in re-analyzing certain preclinical and clinical data and will experience delays in the development of AL101 and AL102, which could adversely affect our financial position and delay our ability to commercialize AL101 and AL102.

The regulatory approval processes of the FDA and comparable foreign authorities are lengthy, time consuming and inherently unpredictable, and if we are ultimately unable to obtain regulatory approval for AL101, AL102 or any other product candidates, our business will be substantially harmed.

The time required to obtain approval by the FDA and comparable foreign authorities is unpredictable but typically takes many years following the commencement of clinical trials and depends upon numerous factors, including the substantial discretion of the regulatory authorities. In addition, approval policies, regulations or the type and amount of clinical data necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions, which may cause delays in the approval or the decision not to approve an application. Regulatory authorities have substantial discretion in the approval process and may refuse to accept any application or may decide that our data are insufficient for approval and require additional preclinical, clinical or other data. Even if we eventually complete clinical testing and receive approval of any regulatory filing for our product candidates, the FDA and other comparable foreign regulatory authorities may approve our product candidates for a more limited indication or a narrower patient population than we originally requested. We have not obtained regulatory approval for any product candidate and it is possible that we will never obtain regulatory approval for AL101, AL102 or any other product candidate. We are not permitted to market any of our product candidates in the United States until we receive regulatory approval of an NDA from the FDA.

Prior to obtaining approval to commercialize a product candidate in the United States or abroad, we must demonstrate with substantial evidence from well-controlled clinical trials, and to the satisfaction of the FDA or foreign regulatory agencies, that such product candidate is safe and effective for its intended use. Results from preclinical studies and clinical trials can be interpreted in different ways. Even if we believe the preclinical or clinical data for our product candidates are promising, such data may not be sufficient to support approval by the FDA and other regulatory authorities.

The FDA or any foreign regulatory bodies can delay, limit or deny approval of our product candidates or require us to conduct additional preclinical or clinical testing or abandon a program for many reasons, including:

- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials;

- we may be unable to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that a product candidate is safe and effective for its proposed indication;
- serious and unexpected drug-related side effects experienced by participants in our clinical trials or by individuals using drugs similar to our product candidates, or other products containing the active ingredient in our product candidates;
- negative or ambiguous results from our clinical trials or results that may not meet the level of statistical significance required by the FDA or comparable foreign regulatory authorities for approval;
- the population studied in the clinical trial may not be sufficiently broad or representative to assure efficacy and safety in the full population for which we seek approval;
- we may be unable to demonstrate that a product candidate's clinical and other benefits outweigh its safety risks;
- the FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from preclinical studies or clinical trials;
- the data collected from clinical trials of our product candidates may not be acceptable or sufficient to support the submission of an NDA or other submission or to obtain regulatory approval in the United States or elsewhere, and we may be required to conduct additional clinical trials;
- the FDA's or the applicable foreign regulatory agency's disagreement regarding the formulation, labeling and/or the specifications of our product candidates;
- the FDA or comparable foreign regulatory authorities may fail to approve or find deficiencies with the manufacturing processes or facilities of third-party manufacturers with which we contract for clinical and commercial supplies; and
- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval.

Moreover, preclinical and clinical data are often susceptible to varying interpretations and analyses and many companies that believed their product candidates performed satisfactorily in preclinical studies and clinical trials nonetheless failed to obtain FDA or comparable foreign regulatory authority approval. We cannot guarantee that the FDA or foreign regulatory authorities will interpret trial results as we do, and more trials could be required before we are able to submit applications seeking approval of our product candidates. To the extent that the results of the trials are not satisfactory to the FDA or foreign regulatory authorities for support of a marketing application, we may be required to expend significant resources, which may not be available to us, to conduct additional trials in support of potential approval of our product candidates. Furthermore, the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval, which may lead to the FDA or comparable foreign regulatory authorities delaying, limiting or denying approval of our product candidates.

Of the large number of drugs in development, only a small percentage successfully complete the regulatory approval processes and are commercialized. This lengthy approval process, as well as the unpredictability of future clinical trial results, may result in our failing to obtain regulatory approval to market AL101, AL102 or any other product candidate, which would significantly harm our business, results of operations and prospects.

In addition, the FDA or the applicable foreign regulatory agency also may approve a product candidate for a more limited indication or patient population than we originally requested, and the FDA or applicable foreign regulatory agency may approve a product candidate with a Risk Evaluation and Mitigation Strategy, or REMS, or a label that does not include the labeling claims necessary or desirable for the successful commercialization of that product candidate. Regulatory authorities may also grant approval contingent on the performance of costly post-marketing clinical trials. Any of the foregoing scenarios could materially harm the commercial prospects for our product candidates.

Enrollment and retention of patients in clinical trials is an expensive and time-consuming process and could be made more difficult or rendered impossible by multiple factors outside our control.

The timely completion of clinical trials in accordance with their protocols depends, among other things, on our ability to enroll a sufficient number of patients who remain in the study until its conclusion. We may encounter delays in enrolling, or be unable to enroll, a sufficient number of patients to complete any of our clinical trials, and even once enrolled, we may be unable to retain a sufficient number of patients to complete any of our trials.

Patient enrollment and retention in clinical trials depends on many factors, including:

- the size and nature of the patient population;
- the severity of the disease under investigation;
- the patient eligibility criteria defined in the protocol;
- the size of the patient population required for analysis of the trial's primary endpoints;
- the nature of the trial protocol;
- the existing body of safety and efficacy data with respect to the product candidate;
- the number of clinical sites and the proximity of patients to clinical sites;
- our ability to recruit clinical trial investigators with the appropriate competencies and experience;
- clinicians' and patients' perceptions as to the potential advantages of the product candidate being studied in relation to other available therapies, including any new drugs that may be approved for the indications we are investigating;
- competing clinical trials being conducted by other companies or institutions;
- the COVID-19 pandemic;
- our ability to maintain patient consents; and
- the risk that patients enrolled in clinical trials will drop out of the trials before completion.

For example, we are currently conducting our Phase 2 ACCURACY trial of AL101 in a subset of R/M ACC patients with Notch-activating mutations and intend to conduct a Phase 2 clinical trial of AL101 in a subset of R/M TNBC patients with Notch-activating mutations in the second half of 2020 and a Phase 2 trial of AL101 in R/R T-ALL patients in the second half of 2020, subject to the impact of COVID-19 on our business. We cannot be sure that we will be able to identify a sufficient number of patients with this genotype in a timely manner to initiate the R/M TNBC and R/R T-ALL Phase 2 trials at their respective target dates, or in sufficient numbers to complete these trials or our Phase 2 ACCURACY trial. Furthermore, any negative results we may report in clinical trials of any product candidate may make it difficult or impossible to recruit and retain patients in other clinical trials of that same product candidate. Delays or failures in planned patient enrollment or retention may result in increased costs or program delays, which could have a harmful effect on our strategy to rapidly advance the clinical development of our product candidates or could render further development impossible.

If we do not achieve our projected development and commercialization goals in the timeframes we announce and expect, the commercialization of our product candidates may be delayed and our business will be harmed.

For planning purposes, we sometimes estimate the timing of the accomplishment of various scientific, clinical, regulatory and other product development objectives. These milestones may include our expectations regarding the commencement or completion of scientific studies and clinical trials, the regulatory submissions or commercialization objectives. From time to time, we may publicly announce the expected timing of some of these milestones, such as the completion of an ongoing clinical trial, the initiation of other clinical trials, receipt

of regulatory approval or the commercial launch of a product. The achievement of many of these milestones may be outside of our control. All of these milestones are based on a variety of assumptions which may cause the timing of achievement of the milestones to vary considerably from our estimates, including:

- our available capital resources or capital constraints we experience;
- the rate of progress, costs and results of our clinical trials and research and development activities, including the extent of scheduling conflicts with participating clinicians and collaborators;
- our ability to identify and enroll patients who meet clinical trial eligibility criteria;
- our receipt of authorizations by the FDA and comparable foreign regulatory authorities, and the timing thereof;
- other actions, decisions or rules issued by regulators;
- our ability to access sufficient, reliable and affordable supplies of materials used in the manufacture of our product candidates;
- our ability to manufacture and supply clinical trial materials to our clinical sites on a timely basis;
- the severity, duration and impact of the COVID-19 pandemic;
- the efforts of our collaborators with respect to the commercialization of our products, if any; and
- the securing of, costs related to, and timing issues associated with, commercial product manufacturing as well as sales and marketing activities.

If we fail to achieve announced milestones in the timeframes we expect, the commercialization of any of our product candidates may be delayed, and our business, results of operations, financial condition and prospects may be adversely affected.

Results of preclinical studies, early clinical trials or analyses may not be indicative of results obtained in later trials.

The results of preclinical studies, early clinical trials or analyses of our product candidates, including our *post hoc* analyses of AL101 and AL102, may not be predictive of the results of later-stage clinical trials or the results of clinical trials of the same product candidates in other indications. Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy traits despite having progressed through preclinical studies and initial clinical trials. A number of companies in the biopharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or adverse safety profiles, notwithstanding promising results in earlier trials. In addition, conclusions based on promising data from analyses of clinical results, such as our *post hoc* analyses, may be shown to be incorrect when implemented in prospective clinical trials. Even if our Phase 2 ACCURACY trial of AL101 for the treatment of R/M ACC and any other clinical trials of AL101 or AL102 are completed as planned, we cannot be certain that their results will support the safety and efficacy sufficient to obtain regulatory approval. Product candidates in later-stage clinical trials may fail to demonstrate sufficient safety and efficacy to the satisfaction of the FDA and other comparable foreign regulatory authorities despite having progressed through preclinical studies and early-stage clinical trials. Moreover, the results of clinical trials of a product candidate in a particular indication may not be predictive of the results of clinical trials of that product candidate in other indications.

In some instances, there can be significant variability in safety and efficacy results between different clinical trials of the same product candidate due to numerous factors, including changes in trial protocols, differences in size and type of the patient populations, differences in and adherence to the dosing regimen and other trial protocols and the rate of dropout among clinical trial participants. Patients treated with our product candidates may also be undergoing surgical, radiation and chemotherapy treatments and may be using other approved products or investigational new drugs, which can cause side effects or adverse events that are unrelated to our

product candidate. As a result, assessments of efficacy and safety can vary widely for a particular patient, and from patient to patient and site to site within a clinical trial. This subjectivity can increase the uncertainty of, and adversely impact, our clinical trial outcomes. We do not know whether any clinical trials we may conduct will demonstrate consistent or adequate efficacy and safety sufficient to obtain marketing approval to market our product candidates. Most product candidates that begin clinical trials are never approved by regulatory authorities for commercialization.

Interim "top-line" and preliminary data from our clinical trials that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final data.

From time to time, we may publicly disclose interim top-line or preliminary data from our clinical trials, which is based on a preliminary analysis of then-available data, and the results and related findings and conclusions are subject to change following a more comprehensive review of the data related to the particular study or trial. We also make assumptions, estimations, calculations and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data. As a result, the top-line or preliminary results that we report may differ from future results of the same studies, or different conclusions or considerations may qualify such results, once additional data have been received and fully evaluated. Top-line or preliminary data also remain subject to audit and verification procedures that may result in the final data being materially different from the top-line or preliminary data we previously published. As a result, top-line and preliminary data should be viewed with caution until the final data are available.

From time to time, we may also disclose interim data from our preclinical studies and clinical trials. For example, we have reported interim data from our ongoing Phase 2 ACCURACY trial as of April 28, 2020, elsewhere in this prospectus. Interim data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available. Adverse differences between interim data and final data could significantly harm our business prospects. Further, disclosure of interim data by us or by our competitors could result in volatility in the price of our common stock after this offering.

Further, others, including regulatory agencies, may not accept or agree with our assumptions, estimates, calculations, conclusions or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability or commercialization of the particular product candidate or product and our company in general. In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is based on what is typically extensive information, and you or others may not agree with what we determine is material or otherwise appropriate information to include in our disclosure.

If the interim top-line or preliminary data that we report differ from actual results, or if others, including regulatory authorities, disagree with the conclusions reached, our ability to obtain approval for, and commercialize, our product candidates may be harmed, which could harm our business, operating results, prospects or financial condition.

Our product candidates may cause serious adverse events or undesirable side effects, which may delay or prevent marketing approval, or, if approved, require them to be taken off the market, require them to include safety warnings or otherwise limit their sales.

As is the case with pharmaceuticals generally, it is likely that there may be side effects and adverse events associated with our product candidates' use. Results of any clinical trial we conduct could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics. Serious adverse events or undesirable side effects caused by AL101, AL102 or any other product candidates could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or

denial of regulatory approval by the FDA or other comparable foreign authorities. Drug-related side effects could affect patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. Any of these occurrences may harm our business, financial condition and prospects significantly. To date, patients treated with AL101 or AL102 have experienced adverse events that include nausea, vomiting, diarrhea, fatigue, cough, decreased appetite, epistaxis, dry skin, insomnia and hypophosphatemia. In addition, in the Phase 1 studies conducted by BMS, there was one patient death that was assessed by the investigator to be treatment-related and there was one patient death that BMS determined could have been treatment-related. In our Phase 2 ACCURACY trial, there have been four deaths within 30 days of stopping AL101 treatment, two of which were assessed by the investigator not to be treatment-related, one of which was assessed by the investigator to likely be treatment-related but assessed by the trial sponsor as the result of advanced disease and/or pneumonia, and the last of which was assessed by the investigator to possibly be treatment-related but the investigator considered the subject's COVID-19 infection as an alternate cause of death. Patients in our ongoing and planned clinical trials may in the future suffer other serious adverse events or other side effects not observed in our preclinical studies or previous clinical trials. In addition, if our product candidates are used in combination with other therapies, our product candidates may exacerbate adverse events associated with the therapy and the severity and frequency of adverse events may be greater than the cumulative severity and frequency of such adverse events when the therapies are used as monotherapies. Patients treated with our product candidates may also be undergoing surgical, radiation and chemotherapy treatments, which can cause side effects or adverse events that are unrelated to our product candidates, but may still impact the success of our clinical trials. The inclusion of critically ill patients in our clinical trials may result in deaths or other adverse medical events due to other therapies or medications that such patients may be using or due to the gravity of such patients' illnesses.

If unacceptable side effects arise in the development of our product candidates, we, the FDA or the IRBs at the institutions in which our studies are conducted, or the DSMB, if constituted for our clinical trials, could recommend a suspension or termination of our clinical trials, or the FDA or comparable foreign regulatory authorities could order us to cease further development of or deny approval of a product candidate for any or all targeted indications. In addition, drug-related side effects could affect patient recruitment or the ability of enrolled patients to complete a trial or result in potential product liability claims. In addition, these side effects may not be appropriately recognized or managed by the treating medical staff. We expect to have to train medical personnel using our product candidates to understand the side effect profiles for our clinical trials and upon any commercialization of any of our product candidates. Inadequate training in recognizing or managing the potential side effects of our product candidates could result in patient injury or death. Any of these occurrences may harm our business, financial condition and prospects significantly.

Additionally, if one or more of our product candidates receives marketing approval, and we or others later identify undesirable side effects caused by such products, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw approvals of such product;
- regulatory authorities may require additional warnings on the label, such as a "black box" warning or contraindication;
- additional restrictions may be imposed on the marketing of the particular product or the manufacturing processes for the product or any component thereof;
- we may be required to implement a REMS or create a medication guide outlining the risks of such side effects for distribution to patients;
- we could be sued and held liable for harm caused to patients;
- the product may become less competitive; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of a product candidate, if approved, and could significantly harm our business, results of operations and prospects.

The market opportunities for AL101 and AL102, if approved, may be smaller than we anticipate.

We expect to initially seek approval of AL101 for the treatment of R/M ACC. Our projections of the number of ACC patients, the number of R/M ACC patients and the proportion of R/M ACC patients with Notch-activating mutations are based on our beliefs and estimates. These estimates have been derived from a variety of sources, including scientific literature, patient foundations and publicly available databases, and may prove to be incorrect. Further, new sources may reveal a change in the estimated number of patients, and the number of patients may turn out to be lower than expected. Additionally, the potential addressable patient population for our current programs or future product candidates may be limited. The ultimate market opportunity for our product candidates will depend on, among other things, the final labeling for such product candidates as agreed with the FDA or comparable foreign regulatory authorities, acceptance by the medical community and patient access, potential competition and drug pricing and reimbursement. Even if we obtain significant market share for any product candidate, if approved, if the potential target populations are small, we may never achieve profitability without obtaining marketing approval for additional indications.

We may not be successful in developing, or collaborating with others to develop, diagnostic tests to identify patients with Notch-activating mutations.

We are currently developing product candidates that target the aberrant activation of the Notch pathway and believe that our product candidates, if approved, would be used as treatments for patients with Notch-activating mutations. Commercially available diagnostic tests are limited in their ability to uncover all potential Notch-activating mutations, as they do not cover all four Notch genes and only uncover simple mutations in the Notch gene locus, such as point mutations, insertions, deletions and copy number variations. These tests are able to detect only a subset of the patients with Notch-activating mutations. To identify additional patients with Notch-activating mutations who we believe may benefit from the use of our product candidates, we intend to collaborate with leading diagnostics companies to improve the testing capabilities for Notch-activating mutations. However, the development of such diagnostic tests is expensive, difficult and we and our collaborators may be unable to successfully do so within a reasonable amount of time with acceptable costs, if at all.

In addition, collaborations are subject to substantial additional risks and uncertainties, as described under "—Risks Related to Our Dependence on Third Parties." For example, if our collaborators do not successfully carry out their contractual duties or obligations or fail to meet expected deadlines, the addressable patient population for our product candidates may be limited. Further, if our relationship with any collaborator terminates, we may not be able to enter into alternative collaborative arrangements or do so on commercially reasonable terms. The occurrence of any of the above will have an adverse impact on our business, financial condition and prospects.

Even if we or our collaborators are successful in developing diagnostic tests that uncover additional Notch-activating mutations, such diagnostic tests may nonetheless fail to gain sufficient market acceptance by physicians, patients, third-party payors and others in the medical community for reasons such as cost, ease of use and belief regarding the effectiveness of our product candidates.

We have never obtained marketing approval for a product candidate and we may be unable to obtain, or may be delayed in obtaining, marketing approval for any of our product candidates.

We have never obtained marketing approval for a product candidate. It is possible that the FDA may refuse to accept for substantive review any NDAs that we submit for our product candidates or may conclude after review of our data that our application is insufficient to obtain marketing approval of our product candidates. If the FDA does not accept or approve our NDAs for our product candidates, it may require that we conduct additional clinical, preclinical or manufacturing validation studies and submit that data before it will reconsider our applications. Depending on the extent of these or any other FDA-required studies, approval of any NDA that we submit may be delayed, or may require us to expend more resources than we have available. It is also possible that additional studies, if performed and completed, may not be considered sufficient by the FDA to approve our NDAs.

Any delay in obtaining, or an inability to obtain, marketing approvals would prevent us from commercializing our product candidates, generating revenues and achieving and sustaining profitability. If any of these outcomes occurs, we may be forced to abandon our development efforts for our product candidates, which could significantly harm our business.

Even if we obtain FDA approval for AL101, AL102 or any other product candidate in the United States, we may never obtain approval for or commercialize AL101, AL102 or any other product candidate in any other jurisdiction, which would limit our ability to realize their full market potential.

In order to market any products in any particular jurisdiction, we must establish and comply with numerous and varying regulatory requirements on a country-by-country basis regarding safety and efficacy. Approval by the FDA in the United States does not ensure approval by regulatory authorities in other countries or jurisdictions. However, the failure to obtain approval in one jurisdiction may negatively impact our ability to obtain approval elsewhere. In addition, clinical trials conducted in one country may not be accepted by regulatory authorities in other countries, and regulatory approval in one country does not guarantee regulatory approval in any other country.

Approval processes vary among countries and can involve additional product testing and validation and additional administrative review periods. Seeking foreign regulatory approval could result in difficulties and increased costs for us and require additional preclinical studies or clinical trials which could be costly and time consuming. Regulatory requirements can vary widely from country to country and could delay or prevent the introduction of our products in those countries. We do not have any product candidates approved for sale in any jurisdiction, including in international markets, and we do not have experience in obtaining regulatory approval in international markets. If we fail to comply with regulatory requirements in international markets or to obtain and maintain required approvals, or if regulatory approvals in international markets are delayed, our target market will be reduced and our ability to realize the full market potential of any product we develop will be unrealized.

Additionally, the United Kingdom left the European Union on January 31, 2020, an event commonly referred to as Brexit, under the terms of a withdrawal agreement, entering into a “transition period” set to end on December 31, 2020 during which the United Kingdom will essentially be treated as a member state of the European Union and the regulatory regime will remain the same across the United Kingdom and the European Union. The U.K. government passed a withdrawal agreement bill that prohibits any extension to the transition period beyond the end of 2020. After the transition period, the future relationship between the United Kingdom and the European Union will be governed by any agreements negotiated during the transition period. Since a significant proportion of the regulatory framework affecting the pharmaceutical and biotechnology industries in the United Kingdom is derived from the European Union directives and regulations, the referendum could materially impact the regulatory regime with respect to the approval of our product candidates in the United Kingdom and/or the European Union. In addition, following the Brexit vote, the European Union moved the European Medicines Agency’s, or the EMA, headquarters from the United Kingdom to the Netherlands. This transition may cause disruption in the administrative and medical scientific links between the EMA and the U.K. Medicines and Healthcare products Regulatory Agency, including delays in granting clinical trial authorization or marketing authorization, disruption of import and export of active substance and other components of new drug formulations, and disruption of the supply chain for clinical trial product and final authorized formulations. The cumulative effects of the disruption to the regulatory framework may add considerably to the development lead time to marketing authorization and commercialization of products in the United Kingdom and/or the European Union. Any delay in obtaining, or an inability to obtain, any marketing approvals, as a result of Brexit or otherwise, would prevent us from commercializing our product candidates in the United Kingdom and/or the European Union, and restrict our ability to generate revenue and achieve and sustain profitability. If any of these outcomes occurs, we may be forced to restrict or delay efforts to seek regulatory approval in the United Kingdom and/or European Union for our product candidates, which could significantly and materially harm our business.

Even if we obtain regulatory approval for AL101, AL102 or any product candidate, we will still face extensive and ongoing regulatory requirements and obligations and any product candidates, if approved, may face future development and regulatory difficulties.

Any product candidate for which we obtain marketing approval, along with the manufacturing processes, post-approval clinical data, labeling, packaging, distribution, adverse event reporting, storage, recordkeeping, export, import, advertising and promotional activities for such product, among other things, will be subject to extensive and ongoing requirements of and review by the FDA and other regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, establishment registration and drug listing requirements, continued compliance with cGMP requirements relating to manufacturing, quality control, quality assurance and corresponding maintenance of records and documents, requirements regarding the distribution of samples to physicians and recordkeeping and GCP requirements for any clinical trials that we conduct post-approval.

Even if marketing approval of a product candidate is granted, the approval may be subject to limitations on the indicated uses for which the product candidate may be marketed or to the conditions of approval, including a requirement to implement a REMS. If any of our product candidates receives marketing approval, the accompanying label may limit the approved indicated use of the product candidate, which could limit sales of the product candidate. The FDA may also impose requirements for costly post-marketing studies or clinical trials and surveillance to monitor the safety or efficacy of a product. Violations of the Federal Food, Drug, and Cosmetic Act, or FDCA, relating to the promotion of prescription drugs may lead to FDA enforcement actions and investigations alleging violations of federal and state healthcare fraud and abuse laws, as well as state consumer protection laws.

In addition, later discovery of previously unknown adverse events or other problems with our products, manufacturers or manufacturing processes or failure to comply with regulatory requirements, may yield various results, including:

- restrictions on manufacturing such products;
- restrictions on the labeling or marketing of products;
- restrictions on product manufacturing, distribution or use;
- requirements to conduct post-marketing studies or clinical trials;
- warning letters or untitled letters;
- withdrawal of the products from the market;
- refusal to approve pending applications or supplements to approved applications that we submit;
- recall of products;
- fines, restitution or disgorgement of profits or revenues;
- suspension or withdrawal of marketing approvals;
- refusal to permit the import or export of our products;
- product seizure; or
- injunctions or the imposition of civil or criminal penalties.

Further, the FDA's policies may change, and additional government regulations may be enacted that could impose extensive and ongoing regulatory requirements and obligations on any product candidate for which we obtain marketing approval. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained, which would adversely affect our business, prospects and ability to achieve or sustain profitability.

We also cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. For example, certain policies of the current presidential administration may impact our business and industry. Namely, the current presidential administration has taken several executive actions, including the issuance of a number of Executive Orders, that could impose significant burdens on, or otherwise materially delay, the FDA's ability to engage in routine regulatory and oversight activities such as implementing statutes through rulemaking, issuance of guidance, and review and approval of marketing applications. It is difficult to predict how these executive actions will be implemented, and the extent to which they will impact the FDA's ability to exercise its regulatory authority. If these executive actions impose constraints on the FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted.

The FDA and other regulatory agencies actively enforce the laws and regulations prohibiting the promotion of drugs for off-label uses.

If any of our product candidates is approved and we are found to have improperly promoted off-label uses of those products, we may become subject to significant liability. The FDA and other regulatory agencies strictly regulate the promotional claims that may be made about prescription products, such as our product candidates, if approved. In particular, a product may not be promoted for uses that are not approved by the FDA or such other regulatory agencies as reflected in the product's approved labeling. If we receive marketing approval for a product candidate, physicians may nevertheless prescribe it to their patients in a manner that is inconsistent with the approved label. If we are found to have promoted such off-label uses, we may become subject to significant liability. The U.S. federal government has levied large civil and criminal fines against companies for alleged improper promotion of off-label use and has enjoined several companies from engaging in off-label promotion. The FDA has also requested that companies enter into consent decrees or permanent injunctions under which specified promotional conduct is changed or curtailed. If we cannot successfully manage the promotion of our product candidates, if approved, we could become subject to significant liability, which would materially adversely affect our business and financial condition.

If we are required by the FDA to obtain approval of a companion diagnostic device in connection with approval of one of our product candidates, and we do not obtain or face delays in obtaining FDA approval of a companion diagnostic device, we will not be able to commercialize the product candidate and our ability to generate revenue will be materially impaired.

According to FDA guidance, if the FDA determines that a companion diagnostic device is essential to the safe and effective use of a novel therapeutic product or indication, the FDA generally will not approve the therapeutic product or new therapeutic product indication if the companion diagnostic is not also approved or cleared for that indication. We plan to collaborate with patient diagnostic companies during our clinical trial enrollment process to help identify patients with tumor gene alterations that we believe are most likely to respond to our product candidates. For example, we have initially entered into a collaboration agreement with ArcherDX, Inc. to co-develop suitable clinical trial assays. If a satisfactory companion diagnostic is not commercially available, we may be required to create or obtain one that would be subject to regulatory approval requirements. The process of obtaining or creating such diagnostic is time consuming and costly.

Companion diagnostics are developed in conjunction with clinical programs for the associated product and are subject to regulation as medical devices by the FDA and comparable foreign regulatory authorities, and, to date, the FDA has required premarket approval of all companion diagnostics for cancer therapies. Generally, when a companion diagnostic is essential to the safe and effective use of a therapeutic product, the FDA requires that the companion diagnostic be approved before or concurrent with approval of the therapeutic product and before a product can be commercialized. The approval of a companion diagnostic as part of the therapeutic product's labeling limits the use of the therapeutic product to only those patients who express the specific genetic alteration that the companion diagnostic was developed to detect.

If the FDA or a comparable foreign regulatory authority requires approval of a companion diagnostic for any of our product candidates, whether before or after the product candidate obtains marketing approval, we and/or third-party collaborators may encounter difficulties in developing and obtaining approval for these companion diagnostics. Any delay or failure by us or third-party collaborators to develop or obtain regulatory approval of a companion diagnostic could delay or prevent approval or continued marketing of our related product candidates.

We may also experience delays in developing a sustainable, reproducible and scalable manufacturing process for the companion diagnostic or in transferring that process to commercial partners or negotiating insurance reimbursement plans, all of which may prevent us from completing our clinical trials or commercializing our product candidates, if approved, on a timely or profitable basis, if at all.

Inadequate funding for the FDA, the SEC and other government agencies could hinder their ability to hire and retain key leadership and other personnel, prevent new products and services from being developed or commercialized in a timely manner or otherwise prevent those agencies from performing normal business functions on which the operation of our business may rely, which could negatively impact our business.

The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels, ability to hire and retain key personnel and accept the payment of user fees, and statutory, regulatory, and policy changes. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of the Securities and Exchange Commission, or the SEC, and other government agencies on which our operations may rely, including those that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable.

Disruptions at the FDA and other agencies may also slow the time necessary for new drugs to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, in recent years, including in 2018 and 2019, the U.S. government shut down several times and certain regulatory agencies, such as the FDA and the SEC, had to furlough critical employees and stop critical activities. Separately, in response to the COVID-19 pandemic, the FDA postponed most inspections of foreign manufacturing facilities and products, postponed routine surveillance inspections of domestic manufacturing facilities and is conducting only teleconference meetings. Regulatory authorities outside the United States may adopt similar restrictions or other policy measures in response to the COVID-19 pandemic. If a prolonged government shutdown occurs, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business. Further, upon completion of this offering and in our operations as a public company, future government shutdowns could impact our ability to access the public markets and obtain necessary capital in order to properly capitalize and continue our operations.

We have been granted Orphan Drug Designation for AL101 for the treatment of ACC and may seek Orphan Drug Designation for other indications or product candidates, and we may be unable to maintain the benefits associated with Orphan Drug Designation, including the potential for market exclusivity, and may not receive Orphan Drug Designation for other indications or for our other product candidates.

Regulatory authorities in some jurisdictions, including the United States and Europe, may designate drugs intended for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a drug as an orphan drug if it is a drug intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals in the United States, or a patient population greater than 200,000 in the United States where there is no reasonable expectation that the cost of developing the drug will be recovered from sales in the United States. In the United States, Orphan Drug Designation entitles a party to financial incentives such as opportunities for grant funding toward clinical trial costs, tax advantages and user-fee waivers. In addition, if a product that has Orphan Drug Designation subsequently receives the first FDA approval for the disease for which it has such designation, the product is entitled to orphan drug exclusivity, which means that the FDA may not approve any other applications, including a full NDA to market the same product for the same indication for seven years, except in limited circumstances, such as a showing of clinical

superiority to the product with orphan drug exclusivity or where the manufacturer is unable to assure sufficient product quantity. However, Orphan Drug Designation neither shortens the development time or regulatory review time of a drug nor gives the drug any advantage in the regulatory review or approval process.

In May 2019, the FDA granted Orphan Drug Designation to AL101 for the treatment of ACC. We may seek Orphan Drug Designations for AL101 in other indications or for AL102 or other product candidates. There can be no assurances that we will be able to obtain such designations.

Even if we obtain Orphan Drug Designation for any product candidate in specific indications, we may not be the first to obtain marketing approval of such product candidate for the orphan-designated indication due to the uncertainties associated with developing pharmaceutical products. In addition, exclusive marketing rights in the United States may be limited if we seek approval for an indication broader than the orphan-designated indication or may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition.

Further, even if we obtain orphan drug exclusivity in the United States for a product, that exclusivity may not effectively protect the product from competition because different drugs with different active moieties can be approved for the same condition. Even after an orphan product is approved, the FDA can subsequently approve the same drug with the same active moiety for the same condition if the FDA concludes that the later drug is safer, more effective or makes a major contribution to patient care. Further, the composition of matter patents for AL101 and AL102 will expire in 2032 and 2033, respectively, and if orphan drug exclusivity does not protect these products from competition, our business and financial condition could be materially adversely affected.

Although we have received Fast Track designation for AL101, and may seek Fast Track designation for our other product candidates, such designations may not actually lead to a faster development timeline, regulatory review or approval process.

If a drug is intended for the treatment of a serious condition and nonclinical or clinical data demonstrate the potential to address unmet medical need for this condition, a drug sponsor may apply for FDA Fast Track designation. Fast Track designation alone does not guarantee qualification for the FDA's priority review procedures.

We have received Fast Track designation for AL101 for the treatment of patients with R/M ACC, and we may seek Fast Track designations for additional indications for AL101 or for our other product candidates. However, the FDA has broad discretion whether or not to grant such designations. If we seek a designation for a product candidate, we may not receive it from the FDA. Even if we receive it, such designation does not ensure that we will receive marketing approval or that approval will be granted within any particular time frame. We may not experience a faster development or regulatory review or approval process compared to conventional FDA procedures. In addition, the FDA may withdraw a designation if it believes that the designation is no longer supported by data from our clinical development program.

We may attempt to secure approval from the FDA or comparable foreign regulatory authorities through the use of accelerated approval pathways. If we are unable to obtain such approval, we may be required to conduct additional preclinical studies or clinical trials beyond those that we contemplate, which could increase the expense of obtaining, and delay the receipt of, necessary marketing approvals. Even if we receive accelerated approval from the FDA, if our confirmatory trials do not verify clinical benefit, or if we do not comply with rigorous post-marketing requirements, the FDA may seek to withdraw accelerated approval.

We may in the future seek an accelerated approval for one or more of our product candidates. Under the accelerated approval program, the FDA may grant accelerated approval to a product candidate designed to treat a serious or life-threatening condition that provides meaningful therapeutic benefit over available therapies upon a

determination that the product candidate has an effect on a surrogate endpoint or intermediate clinical endpoint that is reasonably likely to predict clinical benefit. The FDA considers a clinical benefit to be a positive therapeutic effect that is clinically meaningful in the context of a given disease, such as irreversible morbidity or mortality. For the purposes of accelerated approval, a surrogate endpoint is a marker, such as a laboratory measurement, radiographic image, physical sign, or other measure that is thought to predict clinical benefit, but is not itself a measure of clinical benefit. An intermediate clinical endpoint is a clinical endpoint that can be measured earlier than an effect on irreversible morbidity or mortality that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit. The accelerated approval pathway may be used in cases in which the advantage of a new drug over available therapy may not be a direct therapeutic advantage, but is a clinically important improvement from a patient and public health perspective. If granted, accelerated approval is usually contingent on the sponsor's agreement to conduct, in a diligent manner, additional post-approval confirmatory studies to verity and describe the drug's clinical benefit. If such post-approval studies fail to confirm the drug's clinical benefit, the FDA may withdraw its approval of the drug.

Prior to seeking accelerated approval for any of our product candidates, we intend to seek feedback from the FDA and will otherwise evaluate our ability to seek and receive accelerated approval. There can be no assurance that after our evaluation of the feedback and other factors we will decide to pursue or submit an NDA for accelerated approval or any other form of expedited development, review or approval. Similarly, there can be no assurance that after subsequent FDA feedback we will continue to pursue or apply for accelerated approval or any other form of expedited development, review or approval, even if we initially decide to do so. Furthermore, if we decide to submit an application for accelerated approval or receive an expedited regulatory designation for our product candidates, there can be no assurance that such submission or application will be accepted or that any expedited development, review or approval will be granted on a timely basis, or at all. The FDA or other comparable foreign regulatory authorities could also require us to conduct further studies prior to considering our application or granting approval of any type. A failure to obtain accelerated approval or any other form of expedited development, review or approval for our product candidate would result in a longer time period to commercialization of such product candidate, could increase the cost of development of such product candidate and could harm our competitive position in the marketplace.

Changes in methods of product candidate manufacturing or formulation may result in additional costs or delay.

As product candidates proceed through preclinical studies to late-stage clinical trials towards potential approval and commercialization, it is common that various aspects of the development program, such as manufacturing methods and formulation, are altered along the way in an effort to optimize processes and results. Such changes carry the risk that they will not achieve these intended objectives. Any of these changes could cause our product candidates to perform differently and affect the results of planned clinical trials or other future clinical trials conducted with the materials manufactured using altered processes. Such changes may also require additional testing, including bridging or comparability testing to demonstrate the validity of clinical data obtained in clinical trials following manufacturing changes, FDA notification or FDA approval.

Because certain of our prior clinical trials of AL101 and AL102 were conducted by third parties, we will need to perform analytical and other tests to demonstrate that any new drug product material is comparable in all respects, including potency, to the product used in such earlier clinical trials. There is no assurance that any such product will pass the required comparability testing, that any other future third-party manufacturer that we engage will be successful in producing our product candidates or that any materials produced by any third-party manufacturer that we engage will have the same effect in patients that we have observed to date with respect to materials used in prior clinical trials.

All of the above could delay completion of clinical trials, require the conduct of bridging clinical trials or the repetition of one or more clinical trials, increase clinical trial costs, delay approval of our product candidates and jeopardize our ability to commence sales and generate revenue.

Moreover, we have not yet manufactured or processed on a commercial scale and may not be able to do so for any of our product candidates if approved. We may make changes as we work to optimize our manufacturing processes, but we cannot be sure that even minor changes in our processes will result in therapies that are safe and effective and approved for commercial sale.

Potential product liability lawsuits against us could cause us to incur substantial liabilities and limit commercialization of any products that we may develop.

The use of AL101, AL102 or any other product candidates we may develop in clinical trials and the sale of any products for which we obtain marketing approval expose us to the risk of product liability claims. Product liability claims might be brought against us by patients, healthcare providers, pharmaceutical companies or others selling or otherwise coming into contact with our products. On occasion, large judgments have been awarded in class action lawsuits based on drugs that had unanticipated adverse effects. If we cannot successfully defend against product liability claims, we could incur substantial liability and costs. In addition, regardless of merit or eventual outcome, product liability claims may result in:

- impairment of our business reputation and significant negative media attention;
- withdrawal of participants from our clinical trials;
- significant costs to defend the litigation;
- distraction of management's attention from our primary business;
- substantial monetary awards to patients or other claimants;
- inability to commercialize AL101, AL102 or any other product candidate;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- decreased market demand for any product, if approved; and
- loss of revenue.

Our insurance policies are expensive and protect us only from some business risks, which leaves us exposed to significant uninsured liabilities.

We currently carry insurance with an aggregate of $5 million in coverage. However, we do not carry insurance for all categories of risk that our business may encounter. Some of the policies we currently maintain include general liability, property, umbrella, clinical trials and directors' and officers' insurance.

Any additional product liability insurance coverage we acquire in the future, may not be sufficient to reimburse us for any expenses or losses we may suffer. Moreover, insurance coverage is becoming increasingly expensive and in the future we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses due to liability. If we obtain marketing approval for any of our product candidates, we intend to acquire insurance coverage to include the sale of commercial products; however, we may be unable to obtain product liability insurance on commercially reasonable terms or in adequate amounts. A successful product liability claim or series of claims brought against us could cause our share price to decline and, if judgments exceed our insurance coverage, could adversely affect our results of operations and business, including preventing or limiting the commercialization of any product candidates we develop.

We also expect that operating as a public company will make it more difficult and more expensive for us to obtain director and officer liability insurance, and we may be required to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. As a result, it may be more difficult for us to attract and retain qualified people to serve on our board of directors, our board committees or as

executive officers. We do not know, however, if we will be able to maintain existing insurance with adequate levels of coverage. Any significant uninsured liability may require us to pay substantial amounts, which would adversely affect our cash position and results of operations.

Risks Related to Commercialization

We face significant competition from other biotechnology and pharmaceutical companies and our operating results will suffer if we fail to compete effectively.

The biopharmaceutical industry is characterized by intense competition and rapid innovation. Our competitors may be able to develop other compounds or drugs that are able to achieve similar or better results than those achieved by our product candidates. Our potential competitors include major multinational pharmaceutical companies, established biotechnology companies, specialty pharmaceutical companies and universities and other research institutions. Many of our competitors have substantially greater financial, technical and other resources, such as larger research and development staff, experienced marketing and manufacturing organizations and well-established sales forces. Smaller or early-stage companies may also prove to be significant competitors, particularly as they develop novel approaches to treating disease indications that our product candidates are also focused on treating. Established pharmaceutical companies may also invest heavily to accelerate discovery and development of novel therapeutics or to in-license novel therapeutics that could make the product candidates that we develop obsolete. Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated in our competitors. Competition may increase further as a result of advances in the commercial applicability of technologies and greater availability of capital for investment in these industries. Our competitors, either alone or with collaboration partners, may succeed in developing, acquiring or licensing on an exclusive basis drug or biologic products that are more effective, safer, more easily commercialized or less costly than our product candidates or may develop proprietary technologies or secure patent protection that we may need for the development of our technologies and products.

We consider our most direct competitors with respect to AL101 and AL102 to be companies developing gamma secretase inhibitors, including SpringWorks Therapeutics, Inc. and Celgene Corporation, recently acquired by BMS, or companies that develop Notch inhibitors, including Cellestia Biotech AG and Ciclomed LLC. In addition, with respect to AL101 for the treatment of ACC, we are aware that other companies are, or may be, developing products for this indication, including GlaxoSmithKline plc, Cellestia Biotech AG and LSK BioPartners, Inc. We believe the key competitive factors that will affect the development and commercial success of our product candidates are efficacy, safety, tolerability, reliability, convenience of use, price and reimbursement.

Even if we obtain regulatory approval of our product candidates, the availability and price of our competitors' products could limit the demand and the price we are able to charge for our product candidates. We may not be able to implement our business plan if the acceptance of our product candidates is inhibited by price competition or the reluctance of physicians to switch from existing methods of treatment to our product candidates, or if physicians switch to other new drug or biologic products or choose to reserve our product candidates for use in limited circumstances. For additional information regarding our competition, see "Business—Competition."

The successful commercialization of AL101, AL102 and any other product candidate we develop will depend in part on the extent to which governmental authorities and health insurers establish adequate coverage, reimbursement levels, and pricing policies. Failure to obtain or maintain coverage and adequate reimbursement for our product candidates, if approved, could limit our ability to market those products and decrease our ability to generate revenue.

The availability and adequacy of coverage and reimbursement by governmental healthcare programs such as Medicare and Medicaid, private health insurers and other third-party payors are essential for most patients to be

able to afford prescription medications such as AL101 and AL102, if approved. Our ability to achieve acceptable levels of coverage and reimbursement for products by governmental authorities, private health insurers and other organizations will have an effect on our ability to successfully commercialize AL101, AL102 and any other product candidates we develop. Assuming we obtain coverage for our product candidates by a third-party payor, the resulting reimbursement payment rates may not be adequate or may require co-payments that patients find unacceptably high. We cannot be sure that coverage and reimbursement in the United States or elsewhere will be available for our product candidates or any product that we may develop, and any reimbursement that may become available may be decreased or eliminated in the future.

Third-party payors increasingly are challenging prices charged for pharmaceutical products and services, and many third-party payors may refuse to provide coverage and reimbursement for particular drugs or biologics when an equivalent generic drug, biosimilar, or a less expensive therapy is available. It is possible that a third-party payor may consider our product candidates as substitutable and only offer to reimburse patients for the less expensive product. Even if we show improved efficacy or improved convenience of administration with our product candidates, pricing of existing drugs may limit the amount we will be able to charge for our product candidates. Increasingly, other third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. For products administered under the supervision of a physician, obtaining coverage and adequate reimbursement may be particularly difficult because of the higher prices often associated with such drugs. These payors may deny or revoke the reimbursement status of a given product or establish prices for new or existing marketed products at levels that are too low to enable us to realize an appropriate return on our investment in our product candidates. If reimbursement is not available or is available only at limited levels, we may not be able to successfully commercialize our product candidates and may not be able to obtain a satisfactory financial return on our product candidates.

There is significant uncertainty related to the insurance coverage and reimbursement of newly approved products. In the United States, third-party payors, including private and governmental payors, such as the Medicare and Medicaid programs, play an important role in determining the extent to which new drugs and biologics will be covered. The Medicare and Medicaid programs increasingly are used as models in the United States for how private payors and other governmental payors develop their coverage and reimbursement policies for drugs and biologics. Some third-party payors may require pre-approval of coverage for new or innovative devices or drug therapies before they will reimburse healthcare providers who use such therapies. It is difficult to predict at this time what third-party payors will decide with respect to the coverage and reimbursement for our product candidates.

No uniform policy for coverage and reimbursement for products exists among third-party payors in the United States. Therefore, coverage and reimbursement for products can differ significantly from payor to payor. As a result, the coverage determination process is often a time-consuming and costly process that will require us to provide scientific and clinical support for the use of our product candidates to each payor separately, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance. Furthermore, rules and regulations regarding reimbursement change frequently, in some cases at short notice, and we believe that changes in these rules and regulations are likely.

Outside the United States, international operations are generally subject to extensive governmental price controls and other market regulations, and we believe the increasing emphasis on cost-containment initiatives in Europe and other countries have and will continue to put pressure on the pricing and usage of our product candidates. In many countries, the prices of medical products are subject to varying price control mechanisms as part of the national health systems. Other countries allow companies to fix their own prices for medical products, but monitor and control company profits. Additional foreign price controls or other changes in pricing regulation could restrict the amount that we are able to charge for our product candidates. Accordingly, in markets outside the United States, the reimbursement for our product candidates may be reduced compared with the United States and may be insufficient to generate commercially reasonable revenue and profits.

Moreover, increasing efforts by governmental and third-party payors in the United States to cap or reduce healthcare costs may cause such organizations to limit both coverage and the level of reimbursement for newly approved products and, as a result, they may not cover or provide adequate payment for our product candidates. We expect to experience pricing pressures in connection with the sale of our product candidates due to the trend toward managed healthcare, the increasing influence of health maintenance organizations and additional legislative changes. The downward pressure on healthcare costs in general, particularly prescription drugs and other treatments, has become intense. As a result, increasingly high barriers are being erected to the entry of new products.

Even if AL101, AL102 or any other product candidate we develop receives marketing approval, it may fail to achieve market acceptance by physicians, patients, third-party payors or others in the medical community necessary for commercial success.

If AL101, AL102 or any other product candidate we develop receives marketing approval, it may nonetheless fail to gain sufficient market acceptance by physicians, patients, third-party payors and others in the medical community. If it does not achieve an adequate level of acceptance, we may not generate significant product revenues or become profitable. The degree of market acceptance of our product candidates, if approved, will depend on a number of factors, including but not limited to:

- the efficacy and potential advantages compared to alternative treatments;
- effectiveness of sales and marketing efforts;
- the cost of treatment in relation to alternative treatments, including any similar generic treatments;
- our ability to offer our products for sale at competitive prices;
- the convenience and ease of administration compared to alternative treatments;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the strength of marketing and distribution support;
- the timing of market introduction of competitive products;
- the availability of third-party coverage and adequate reimbursement;
- product labeling or product insert requirements of the FDA, EMA or other regulatory authorities, including any limitations on warnings contained in a product's approved labeling;
- the prevalence and severity of any side effects; and
- any restrictions on the use of our product together with other medications.

Because we expect sales of our product candidates, if approved, to generate substantially all of our revenues for the foreseeable future, the failure of our product candidates to find market acceptance would harm our business and could require us to seek additional financing.

If we are unable to establish sales, marketing and distribution capabilities either on our own or in collaboration with third parties, we may not be successful in commercializing AL101 and AL102, if approved.

We do not have any infrastructure for the sales, marketing or distribution of AL101 and AL102, and the cost of establishing and maintaining such an organization may exceed the cost-effectiveness of doing so. In order to market and successfully commercialize AL101, AL102 or any other product candidate we develop, if approved, we must build our sales, distribution, marketing, managerial and other non-technical capabilities or make arrangements with third parties to perform these services. We expect to build a focused sales, distribution and marketing infrastructure to market AL101 and AL102, if approved. There are significant expenses and risks

involved with establishing our own sales, marketing and distribution capabilities, including our ability to hire, retain and appropriately incentivize qualified individuals, generate sufficient sales leads, provide adequate training to sales and marketing personnel and effectively manage a geographically dispersed sales and marketing team. Any failure or delay in the development of our internal sales, marketing and distribution capabilities could delay any product launch, which would adversely impact the commercialization of that product. Additionally, if the commercial launch of AL101 or AL102 for which we recruit a sales force and establish marketing capabilities is delayed or does not occur for any reason, we would have prematurely or unnecessarily incurred these commercialization expenses. This may be costly, and our investment would be lost if we cannot retain or reposition our sales and marketing personnel.

Factors that may inhibit our efforts to commercialize our product candidates on our own include:

- our inability to recruit, train and retain adequate numbers of effective sales and marketing personnel;
- the inability of sales personnel to obtain access to physicians or attain adequate numbers of physicians to prescribe our products; and
- unforeseen costs and expenses associated with creating an independent sales and marketing organization.

We do not anticipate having the resources in the foreseeable future to allocate to the sales and marketing of our product candidates, if approved, in certain markets overseas. Therefore, our future success will depend, in part, on our ability to enter into and maintain collaborative relationships for such capabilities, the collaborator's strategic interest in a product and such collaborator's ability to successfully market and sell the product. We intend to pursue collaborative arrangements regarding the sale and marketing of AL101 and AL102, if approved, for certain markets overseas; however, we cannot assure you that we will be able to establish or maintain such collaborative arrangements, or if able to do so, that they will have effective sales forces. To the extent that we depend on third parties for marketing and distribution, any revenues we receive will depend upon the efforts of such third parties, and there can be no assurance that such efforts will be successful.

If we are unable to build our own sales force or negotiate a collaborative relationship for the commercialization of AL101 and AL102, we may be forced to delay the potential commercialization of AL101 and AL102 or reduce the scope of our sales or marketing activities for AL101 or AL102. If we need to increase our expenditures to fund commercialization activities for AL101 and AL102, we will need to obtain additional capital, which may not be available to us on acceptable terms, or at all. We may also have to enter into collaborative arrangements for AL101 and AL102 at an earlier stage than otherwise would be ideal and we may be required to relinquish rights to AL101 and AL102 or otherwise agree to terms unfavorable to us. Any of these occurrences may have an adverse effect on our business, operating results and prospects.

If we are unable to establish adequate sales, marketing and distribution capabilities, either on our own or in collaboration with third parties, we will not be successful in commercializing our product candidates and may never become profitable. We will be competing with many companies that currently have extensive and well-funded marketing and sales operations. Without an internal team or the support of a third party to perform marketing and sales functions, we may be unable to compete successfully against these more established companies.

A variety of risks associated with operating internationally could materially adversely affect our business.

Our principal executive offices are located in Israel and certain of our product candidates may be manufactured at third-party facilities located in the United States, United Kingdom, India and Australia. In addition, our business strategy includes potentially expanding internationally if any of our product candidates receives regulatory approval. Doing business internationally involves a number of risks, including but not limited to:

- multiple, conflicting and changing laws and regulations, such as privacy regulations, tax laws, export and import restrictions, employment laws, regulatory requirements and other governmental approvals, permits and licenses;

- failure by us to obtain and maintain regulatory approvals for the use of our products in various countries;
- additional potentially relevant third-party patent rights;
- complexities and difficulties in obtaining protection and enforcing our intellectual property;
- difficulties in staffing and managing foreign operations;
- complexities associated with managing multiple payor reimbursement regimes, government payors or patient self-pay systems;
- limits in our ability to penetrate international markets;
- financial risks, such as longer payment cycles, difficulty collecting accounts receivable, the impact of local and regional financial crises on demand and payment for our products and exposure to foreign currency exchange rate fluctuations;
- natural disasters, political and economic instability, including wars, terrorism and political unrest, outbreak of disease, boycotts, curtailment of trade and other business restrictions;
- certain expenses including, among others, expenses for travel, translation and insurance; and
- regulatory and compliance risks that relate to maintaining accurate information and control over sales and activities that may fall within the purview of the U.S. Foreign Corrupt Practices Act, its books and records provisions, or its anti-bribery provisions.

Any of these factors could significantly harm our international expansion and operations and, consequently, our results of operations.

Risks Related to Our Dependence on Third Parties

Our employees and independent contractors, including principal investigators, CROs, consultants, vendors, and any third parties we may engage in connection with development and commercialization may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could have a material adverse effect on our business.

Our employees and independent contractors, including principal investigators, consultants, vendors and any third parties we may engage in connection with development and commercialization of our product candidates, could engage in misconduct, including intentional, reckless or negligent conduct or unauthorized activities that violate the laws and regulations of the FDA or other similar regulatory requirements of other authorities, including those laws that require the reporting of true, complete and accurate information to such authorities; manufacturing standards; data privacy, security, fraud and abuse and other healthcare laws and regulations; or laws that require the reporting of true, complete and accurate financial information and data. Specifically, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Activities subject to these laws could also involve the improper use or misrepresentation of information obtained in the course of clinical trials, creation of fraudulent data in preclinical studies or clinical trials or illegal misappropriation of drug product, which could result in regulatory sanctions and cause serious harm to our reputation. It is not always possible to identify and deter misconduct by employees and other third parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with such laws or regulations. Additionally, we are subject to the risk that a person or government could allege such fraud or other misconduct, even if none occurred. If any such actions are instituted against us and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business and results of operations, including the imposition of significant civil, criminal and administrative penalties,

damages, monetary fines, disgorgements, possible exclusion from participation in Medicare, Medicaid, other U.S. federal healthcare programs or healthcare programs in other jurisdictions, individual imprisonment, other sanctions, contractual damages, reputational harm, diminished profits and future earnings, and curtailment of our operations.

We currently rely on third-party contract manufacturing organizations, or CMOs, for the production of clinical supply of AL101 and AL102 and intend to rely on CMOs for the production of commercial supply of AL101 and AL102, if approved. Our dependence on CMOs may impair the development of AL101 and AL102 and may impair the commercialization of AL101 and AL102, if approved, which would adversely impact our business and financial position.

We have limited personnel with experience in manufacturing, and we do not own facilities for manufacturing AL101, AL102 or any product candidate. Instead, we rely on and expect to continue to rely on CMOs for the supply of cGMP-grade clinical trial materials and commercial quantities of AL101, AL102 and any future product candidates, if approved. Reliance on CMOs may expose us to more risk than if we were to manufacture our product candidates ourselves. We plan to rely on CMOs to provide a sufficient clinical and commercial supply of AL101 and AL102.

The facilities used to manufacture our product candidates must be inspected by the FDA and comparable foreign authorities. While we provide oversight of manufacturing activities, we do not and will not control the execution of manufacturing activities by, and are or will be essentially dependent on, our CMOs for compliance with cGMP requirements for the manufacture of our product candidates. As a result, we are subject to the risk that our product candidates may have manufacturing defects that we have limited ability to prevent. CMOs may also have competing obligations that prevent them from manufacturing our product candidates in a timely manner. If a CMO cannot successfully manufacture material that conforms to our specifications and the regulatory requirements, we will not be able to secure or maintain regulatory approval for the use of our product candidates in clinical trials, or for commercial distribution of our product candidates, if approved. In addition, we have limited control over the ability of our CMOs to maintain adequate quality control, quality assurance and qualified personnel. If the FDA or comparable foreign regulatory authority finds deficiencies with or does not approve these facilities for the manufacture of our product candidates or if it withdraws any such approval or finds deficiencies in the future, we may need to find alternative manufacturing facilities, which would delay our development program and significantly impact our ability to develop, obtain regulatory approval for or commercialize our product candidates, if approved. In addition, any failure to achieve and maintain compliance with these laws, regulations and standards could subject us to the risk that we may have to suspend the manufacture of our product candidates or that obtained approvals could be revoked. Furthermore, CMOs may breach existing agreements they have with us because of factors beyond our control. They may also terminate or refuse to renew their agreement at a time that is costly or otherwise inconvenient for us. If we were unable to find an adequate CMO or another acceptable solution in time, our clinical trials could be delayed or our commercial activities could be harmed.

We rely on and will continue to rely on CMOs to purchase from third-party suppliers the raw materials necessary to produce our product candidates. We do not and will not have control over the process or timing of the acquisition of these raw materials by our CMOs. The COVID-19 pandemic may also have an impact on the ability of our CMOs to acquire raw materials. Moreover, we currently do not have any agreements for the production of these raw materials. Supplies of raw materials could be interrupted from time to time and we cannot be certain that alternative supplies could be obtained within a reasonable time frame, at an acceptable cost, or at all. In addition, a disruption in the supply of raw materials could delay the commercial launch of our product candidates, if approved, or result in a shortage in supply, which would impair our ability to generate revenues from the sale of our product candidates. Growth in the costs and expenses of raw materials may also impair our ability to cost effectively manufacture our product candidates. There are a limited number of suppliers for the raw materials that we may use to manufacture our product candidates and we may need to assess alternative suppliers to prevent a possible disruption of the manufacture of our product candidates. Moreover, our

product candidates utilize drug substances that are produced on a small scale, which could limit our ability to reach agreements with alternative suppliers.

Finding new CMOs or third-party suppliers involves additional cost and requires our management's time and focus. In addition, there is typically a transition period when a new CMO commences work. Although we generally have not, and do not intend to, begin a clinical trial unless we believe we have on hand, or will be able to obtain, a sufficient supply of our product candidates to complete the clinical trial, any significant delay in the supply of our product candidates or the raw materials needed to produce our product candidates, could considerably delay conducting our clinical trials and potential regulatory approval of our product candidates.

As part of their manufacture of our product candidates, our CMOs and third-party suppliers are expected to comply with and respect the intellectual property and proprietary rights of others. If a CMO or third-party supplier fails to acquire the proper licenses or otherwise infringes, misappropriates or otherwise violates the intellectual property or proprietary rights of others in the course of providing services to us, we may have to find alternative CMOs or third-party suppliers or defend against applicable claims, either of which would significantly impact our ability to develop, obtain regulatory approval for or commercialize our product candidates, if approved. Further, the extent to which the COVID-19 pandemic impacts our ability to procure sufficient supplies for the development of our product candidates will depend on the severity and duration of the spread of the virus, and the actions undertaken to contain COVID-19 or treat its effects.

We are dependent on a small number of suppliers for some of the materials used to manufacture our product candidates, and on one company for the manufacture of the active pharmaceutical ingredient for each of our product candidates.

We currently depend on a small number of suppliers for some of the materials used in, and processes required to develop, our product candidates. We cannot ensure that these suppliers or service providers will remain in business or have sufficient capacity or supply to meet our needs, or that they will not be purchased by one of our competitors or another company that is not interested in continuing to work with us. Our use of a small number of suppliers exposes us to several risks, including disruptions in supply, price increases or late deliveries. There are, in general, relatively few alternative sources of supply for substitute materials. Our current vendors may be unable or unwilling to meet our future demands for our clinical trials or commercial sale. Finding suitable replacement suppliers, materials and processes could take a substantial amount of time and it may be difficult to establish replacement suppliers who meet regulatory requirements. Any disruption or delay in supply could compromise our ability to pursue development and eventual commercialization of our product candidates.

We intend to rely on third parties to conduct, supervise and monitor our clinical trials. If those third parties do not successfully carry out their contractual duties, or if they perform in an unsatisfactory manner, it may harm our business.

We rely, and will continue to rely, on CROs, CRO-contracted vendors and clinical trial sites to ensure the proper and timely conduct of our clinical trials, including our Phase 2 ACCURACY trial of AL101 for the treatment of R/M ACC. Our reliance on CROs for clinical development activities limits our control over these activities, but we remain responsible for ensuring that each of our trials is conducted in accordance with the applicable protocol and legal, regulatory and scientific standards.

We and our CROs will be required to comply with the Good Laboratory Practice requirements for our preclinical studies and GCP requirements for our clinical trials, which are regulations and guidelines enforced by the FDA and are also required by comparable foreign regulatory authorities. Regulatory authorities enforce GCP requirements through periodic inspections of trial sponsors, principal investigators and clinical trial sites. If we or our CROs fail to comply with GCP requirements, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional

clinical trials before approving our marketing applications. We cannot assure you that upon inspection by a given regulatory authority, such regulatory authority will determine that any of our clinical trials complies with GCP requirements.

In addition, our clinical trials must be conducted with product produced under cGMP requirements. Accordingly, if our CROs fail to comply with these requirements, we may be required to repeat clinical trials, which would delay the regulatory approval process. Moreover, our business may be adversely affected if any of these third parties violates federal or state fraud and abuse or false claims laws and regulations or healthcare privacy and security laws.

Our CROs are not our employees, and we do not control whether or not they devote sufficient time and resources to our clinical trials. Our CROs may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials, or other drug development activities, which could affect their performance on our behalf. We face the risk of potential unauthorized disclosure or misappropriation of our intellectual property by CROs, which may reduce our trade secret protection and allow our potential competitors to access and exploit our proprietary technology. If our CROs do not successfully carry out their contractual duties or obligations, fail to meet expected deadlines, or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for any other reason, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for, or successfully commercialize, any product candidate that we develop. As a result, our financial results and the commercial prospects for any product candidate that we develop would be harmed, our costs could increase, and our ability to generate revenue could be delayed.

If our relationship with any CROs terminates, we may not be able to enter into arrangements with alternative CROs or do so on commercially reasonable terms. Switching or adding additional CROs involves substantial cost and requires management's time and focus. In addition, there is a natural transition period when a new CRO commences work. As a result, delays occur, which can materially impact our ability to meet our desired clinical development timelines. Though we intend to carefully manage our relationships with our CROs, there can be no assurance that we will not encounter challenges or delays in the future or that these delays or challenges will not have an adverse impact on our business, financial condition and prospects.

Our existing collaboration with Novartis is, and any future collaborations will be, important to our business. If we are unable to maintain our existing collaboration or enter into new collaborations, or if these collaborations are not successful, our business could be adversely affected.

An important part of our strategy is to evaluate and, as deemed appropriate, extend our current or enter into additional partnerships in the future, including potentially with major biopharmaceutical companies. We have limited capabilities for product development and do not yet have any capability for commercialization. Accordingly, we have entered into an evaluation, option and license agreement with Novartis, or the Novartis Agreement, that provides Novartis with the exclusive ability to evaluate, develop, and potentially license, AL102 in combination with Novartis' BCMA-targeting agents for the treatment of MM. For more information regarding the Novartis Agreement, please see "Business—License Agreements." We may also enter into collaborations with other companies to provide us with important technologies or funding for our programs.

Any current or future collaborations we may extend or enter into may pose a number of risks, including the following:

- collaborators have significant discretion in determining the efforts and resources that they will apply to these collaborations;
- collaborators may not perform their obligations as expected;
- collaborators may not pursue development and commercialization of any product candidates that achieve regulatory approval or may elect not to continue or renew development or commercialization programs

based on preclinical study or clinical trial results, changes in the collaborators' strategic focus or available funding, or external factors, such as an acquisition, that divert resources or create competing priorities;

- collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our product candidates if the collaborators believe that competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours, which may cause collaborators to cease to devote resources to the commercialization of our product candidates;
- for collaborations involving combination therapies that have not yet been tested together, treatment emergent adverse events may be unforeseen and may negatively impact the development of our product candidates;
- collaborators may fail to comply with applicable regulatory requirements regarding the development, manufacture, distribution or marketing of a product candidate or product;
- a collaborator with marketing and distribution rights to one or more of our product candidates that achieve regulatory approval may not commit sufficient resources to the marketing and distribution of such product or products;
- disagreements with collaborators, including disagreements over proprietary rights, contract interpretation or the preferred course of development, might cause delays or termination of the research, development or commercialization of product candidates, might lead to additional responsibilities for us with respect to product candidates, or might result in litigation or arbitration, any of which would be time-consuming and expensive;
- collaborators may not properly obtain, maintain, enforce or defend our intellectual property rights or proprietary rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential litigation;
- collaborators may infringe, misappropriate or otherwise violate the intellectual property or proprietary rights of third parties, which may expose us to litigation and potential liability;
- collaborations may be terminated for the convenience of the collaborator and, if terminated, we would potentially lose the right to pursue further development or commercialization of the applicable product candidates;
- collaborators may learn about our technology and use this knowledge to compete with us in the future;
- there may be conflicts between different collaborators that could negatively affect those collaborations and potentially others;
- the number and type of our collaborations could adversely affect our attractiveness to future collaborators or acquirers; and
- the loss of, or a disruption in our relationship with, any one or more collaborators could harm our business.

Under the Novartis Agreement, the combination of AL102 with BCMA-targeting agents for the treatment of MM is currently being developed. Under the Novartis Agreement, upon completion of the relevant evaluation studies, we and Novartis will negotiate in good faith to provide for the expansion of the respective clinical collaboration and the establishment of a commercial relationship. However, Novartis has no obligation to continue development of the combination products, regardless of the applicable evaluation studies results.

If any collaborations do not result in the successful development and commercialization of products or if one of our collaborators terminates its agreement with us, we may not receive any future research and development funding or milestone or royalty payments under such collaborations. If we do not receive the funding we expect under these agreements, our continued development of our product candidates could be delayed and we may need additional resources to develop additional product candidates. All of the risks relating to product development, regulatory approval and commercialization described in this prospectus also apply to the activities of any collaborators and there can be no assurance that our collaborations will produce positive results or successful products on a timely basis or at all.

Additionally, subject to its contractual obligations to us, if one of our collaborators is involved in a business combination or otherwise changes its business priorities, the collaborator might deemphasize or terminate the development or commercialization of our product candidates. If a collaborator terminates its agreement with us, we may find it more difficult to attract new collaborators and the perception of our business and our stock price could be adversely affected.

We may in the future collaborate with additional pharmaceutical and biotechnology companies for development and potential commercialization of our product candidates. We face significant competition in seeking appropriate collaborators. Our ability to reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator's evaluation of a number of factors. If we are unable to reach agreements with suitable collaborators on a timely basis, on acceptable terms, or at all, we may have to curtail the development of a product candidate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to fund and undertake development or commercialization activities on our own, we may need to obtain additional expertise and additional capital, which may not be available to us on acceptable terms or at all. If we fail to enter into collaborations and do not have sufficient funds or expertise to undertake the necessary development and commercialization activities, we may not be able to further develop our product candidates or bring them to market or continue to develop our programs, and our business may be materially and adversely affected.

If we fail to comply with our obligations in the agreements under which we in-license or acquire development or commercialization rights to products, technology or data from third parties, including those for AL101 and AL102, we could lose such rights that are important to our business.

In November 2017, we licensed rights to AL101 and AL102 pursuant to the BMS License Agreement. This agreement imposes on us, and additional agreements we may enter into with other parties in the future may impose on us, diligence, development and commercialization timelines, milestone and royalty payment, insurance and other obligations.

For example, in exchange for the rights granted to us under the BMS License Agreement, we are obligated to pay BMS up to a total of $16.5 million in milestone payments for the ultimate approval of AL101 for the treatment of ACC in addition to other milestone payments that we are required to pay upon the achievement of other clinical development and commercial milestones, royalty payments that could range from a high single-digit to a low teen percentage on net sales of products containing AL101 or AL102, as well as a portion of all consideration we receive in connection with the sublicense or assignment of any patent rights we licensed from BMS, ranging from a mid-teen to mid-double-digit percentage, depending on the development stage of the most advanced product candidate that is subject to the applicable sublicense or assignment. If we or any of our collaborators fail to comply with our obligations under the BMS License Agreement or other current or future agreements, BMS or counterparties to other agreements may have the right to terminate such agreements, in which event we might not be able to develop, manufacture or market any product candidate that is covered by these agreements, which could materially adversely affect the value of the product candidate being developed

under any such agreement. Termination of these agreements or reduction or elimination of our rights under these agreements may result in our having to negotiate new or reinstated agreements with less favorable terms, or cause us to lose our rights under these agreements, including our rights to important intellectual property or technology, and we may be required to cease the development and commercialization of AL101 and AL102 and any future product candidates that are subject to such agreements.

License agreements may also require us to meet specified development thresholds to maintain the license, including establishing a set timeline for developing and commercializing products.

Disputes may arise regarding intellectual property subject to a licensing agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- the extent to which our technology and processes infringe on intellectual property of the licensor that is not subject to the license agreement;
- the sublicensing of patent and other rights under our collaborative development relationships;
- our diligence obligations under the license agreement and what activities satisfy those diligence obligations;
- the inventorship and ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us and our partners; and
- the priority of invention of patented technology.

In addition, intellectual property license agreements are complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology or increase what we believe to be our financial or other obligations under the relevant agreement. Moreover, if disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates. Any of the foregoing risks could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Risks Related to Healthcare Laws and Other Legal Compliance Matters

Enacted and future healthcare legislation may increase the difficulty and cost for us to obtain marketing approval of and commercialize our product candidates, if approved, and may affect the prices we may set.

In the United States, European Union, or EU, and other jurisdictions, there have been, and we expect there will continue to be, a number of legislative and regulatory changes and proposed changes to the healthcare system that could affect our future results of operations. In particular, there have been and continue to be a number of initiatives at the U.S. federal and state levels that seek to reduce healthcare costs and improve the quality of healthcare. For example, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively the ACA, was enacted, which substantially changed the way healthcare is financed by both governmental and private insurers. Among the provisions of the ACA, those of greatest importance to the pharmaceutical and biotechnology industries include the following:

- an annual, non-deductible fee payable by any entity that manufactures or imports certain branded prescription drugs and biologic agents (other than those designated as orphan drugs), which is apportioned among these entities according to their market share in certain government healthcare programs;
- a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer’s outpatient drugs to be covered under Medicare Part D;

- new requirements to report certain financial arrangements with physicians and teaching hospitals, including reporting "transfers of value" made or distributed to prescribers and other healthcare providers and reporting investment interests held by physicians and their immediate family members;
- an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program to 23.1% and 13.0% of the average manufacturer price for branded and generic drugs, respectively and an extension of the rebate program to individuals enrolled in Medicaid managed care organizations;
- a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted, or injected;
- expansion of eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to certain individuals with income at or below 133% of the federal poverty level, thereby potentially increasing a manufacturer's Medicaid rebate liability;
- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research;
- creation of the Independent Payment Advisory Board, which, once empaneled, will have the authority to recommend certain changes to the Medicare program that could result in reduced payments for prescription drugs and those recommendations could have the effect of law unless overruled by a supermajority vote of Congress; and
- establishment of a Center for Medicare Innovation at the Centers for Medicare & Medicaid Services, or CMS, to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending.

Since its enactment, there have been judicial, Congressional and executive branch challenges to certain aspects of the ACA, and we expect there will be additional challenges and amendments to the ACA in the future. The current presidential administration and Congress will likely continue to seek to modify, repeal, or otherwise invalidate all, or certain provisions of, the ACA. The Tax Cuts and Jobs Act of 2017 includes a provision that repealed, effective January 1, 2019, the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate." On December 14, 2018, the U.S. District Court for the Northern District of Texas ruled that the individual mandate is a critical and inseverable feature of the ACA, and therefore, because it was repealed, the remaining provisions of the ACA are invalid as well. The presidential administration and CMS have both stated that the ruling will have no immediate effect, and on December 30, 2018 the U.S. District Court for the Northern District of Texas issued an order staying the judgment pending appeal. On December 18, 2019, the U.S. Court of Appeals for the Fifth Circuit upheld the District Court ruling that the individual mandate was unconstitutional and remanded the case back to the District Court to determine whether the remaining provisions of the ACA are invalid as well. On March 2, 2020, the Supreme Court of the United States granted the petitions for writ of certiorari to review this case and has allotted one hour for oral arguments, which are expected to occur in the fall. Litigation and legislation over the ACA are likely to continue and it is uncertain the extent to which any such changes may impact our business or financial condition.

Other legislative changes have been proposed and adopted in the United States since the ACA was enacted. For example, the Budget Control Act of 2011, resulted in aggregate reductions of Medicare payments to providers of 2% per fiscal year. These reductions went into effect in April 2013 and, due to subsequent legislative amendments to the statute, will remain in effect through 2030 unless additional action is taken by Congress. In January 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, further reduced Medicare payments to several types of providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. Additionally, the orphan drug tax credit was reduced as part of a broader tax reform. Further, on May 30, 2018, the Trickett Wendler, Frank Mongiello, Jordan McLinn, and

Matthew Bellina Right to Try Act of 2017, or the Right to Try Act, was signed into law. The law, among other things, provides a federal framework for certain patients to request access to certain IND products that have completed a Phase 1 clinical trial and that are undergoing investigation for FDA approval. There is no obligation for a pharmaceutical manufacturer to make its drug products available to eligible patients as a result of the Right to Try Act. These new laws or any other similar laws introduced in the future may result in additional reductions in Medicare and other healthcare funding, which could negatively affect our customers and accordingly, our financial operations.

Moreover, payment methodologies may be subject to changes in healthcare legislation and regulatory initiatives. For example, CMS may develop new payment and delivery models, such as bundled payment models. In addition, recently there has been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under government payor programs, and review the relationship between pricing and manufacturer patient programs. We expect that additional U.S. federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that the U.S. federal government will pay for healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures.

Individual states in the United States have also become increasingly aggressive in passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. Legally-mandated price controls on payment amounts by third-party payors or other restrictions could harm our business, results of operations, financial condition and prospects. In addition, regional healthcare authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other healthcare programs. This could reduce the ultimate demand for our product candidates or put pressure on our product pricing.

In the EU, similar political, economic and regulatory developments may affect our ability to profitably commercialize our product candidates, if approved. In addition to continuing pressure on prices and cost containment measures, legislative developments at the EU or member state level may result in significant additional requirements or obstacles that may increase our operating costs. The delivery of healthcare in the EU, including the establishment and operation of health services and the pricing and reimbursement of medicines, is almost exclusively a matter for national, rather than EU, law and policy. National governments and health service providers have different priorities and approaches to the delivery of healthcare and the pricing and reimbursement of products in that context. In general, however, the healthcare budgetary constraints in most EU member states have resulted in restrictions on the pricing and reimbursement of medicines by relevant health service providers. Coupled with ever-increasing EU and national regulatory burdens on those wishing to develop and market products, this could prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our ability to commercialize our product candidates, if approved.

In markets outside of the United States and EU, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings on specific products and therapies.

We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action in the United States, the EU or any other jurisdiction. If we or any third parties we may engage are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we or such third parties are not able to maintain regulatory compliance, our product candidates may lose any regulatory approval that may have been obtained and we may not achieve or sustain profitability.

Our business operations and current and future relationships with investigators, healthcare professionals, consultants, third-party payors, patient organizations, and customers will be subject to applicable healthcare regulatory laws, which could expose us to penalties.

Our business operations and current and future arrangements with investigators, healthcare professionals, consultants, third-party payors, patient organizations, and customers, may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations. These laws may constrain the business or financial arrangements and relationships through which we conduct our operations, including how we research, market, sell and distribute our product candidates, if approved. Such laws include:

- the U.S. federal Anti-Kickback Statute, which prohibits, among other things, persons or entities from knowingly and willfully soliciting, offering, receiving, or providing any remuneration (including any kickback, bribe, or certain rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, or the purchase, lease, order, or recommendation of, any good, facility, item, or service, for which payment may be made, in whole or in part, under U.S. federal and state healthcare programs such as Medicare and Medicaid. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;
- the U.S. federal false claims and civil monetary penalties laws, including the civil False Claims Act, or FCA, which, among other things, impose criminal and civil penalties, including through civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the U.S. federal government, claims for payment or approval that are false or fraudulent, knowingly making, using or causing to be made or used, a false record or statement material to a false or fraudulent claim, or from knowingly making a false statement to avoid, decrease or conceal an obligation to pay money to the U.S. federal government. In addition, the government may assert that a claim including items and services resulting from a violation of the U.S. federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the FCA;
- the U.S. federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which imposes criminal and civil liability for, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, or knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement, in connection with the delivery of, or payment for, healthcare benefits, items or services; similar to the U.S. federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 and its implementing regulations, which also imposes certain obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information without appropriate authorization by covered entities subject to the rule, such as health plans, healthcare clearinghouses and healthcare providers as well as their business associates that perform certain services involving the use or disclosure of individually identifiable health information;
- the FDCA, which prohibits, among other things, the adulteration or misbranding of drugs, biologics and medical devices;
- the U.S. federal legislation commonly referred to as the Physician Payments Sunshine Act, enacted as part of the ACA, and its implementing regulations, which requires certain manufacturers of drugs, devices, biologics, and medical supplies that are reimbursable under Medicare, Medicaid, or the Children's Health Insurance Program to report annually to the government information related to certain payments and other transfers of value to physicians, certain other healthcare professionals, and teaching hospitals, as well as ownership and investment interests held by the physicians described above and their immediate family members. Additionally, on October 25, 2018, President Trump signed into law the "Substance Use-Disorder Prevention that Promoted Opioid Recovery and Treatment for Patients and Communities

Act" which in part (under a provision entitled "Fighting the Opioid Epidemic with Sunshine") extends the reporting and transparency requirements for physicians in the Physician Payments Sunshine Act to physician assistants, nurse practitioners, clinical nurse specialists, certified registered nurse anesthetists, and certified nurse midwives (with reporting requirements going into effect in 2022 for payments made in 2021);

- analogous U.S. state laws and regulations, including: state anti-kickback and false claims laws, which may apply to our business practices, including but not limited to, research, distribution, sales, and marketing arrangements and claims involving healthcare items or services reimbursed by any third-party payor, including private insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the U.S. federal government, or otherwise restrict payments that may be made to healthcare providers and other potential referral sources; state laws and regulations that require drug manufacturers to file reports relating to pricing and marketing information, which requires tracking gifts and other remuneration and items of value provided to healthcare professionals and entities; and state laws governing the privacy and security of health and other personal information in certain circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts, such as the California Consumer Protection Act, or the CCPA, which came into effect beginning in January 2020 and, among other things, requires new disclosures to California individuals and affording such individuals new abilities to opt out of certain sales of personal information, in addition to severely limiting our ability to use their information; and
- similar healthcare laws and regulations in the EU and other jurisdictions, including reporting requirements detailing interactions with and payments to healthcare providers and laws governing the privacy and security of certain protected information, such as the General Data Protection Regulation, or the GDPR, which imposes obligations and restrictions on the collection and use of personal data relating to individuals located in the European Economic Area, or the EEA, and the United Kingdom (including health data).

Ensuring that our internal operations and future business arrangements with third parties comply with applicable healthcare laws and regulations will involve substantial costs. It is possible that governmental authorities will conclude that our business practices do not comply with current or future statutes, regulations, agency guidance or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of the laws described above or any other governmental laws and regulations that may apply to us, we may be subject to significant penalties, including civil, criminal and administrative penalties, damages, fines, exclusion from government-funded healthcare programs, such as Medicare and Medicaid or similar programs in other countries or jurisdictions, disgorgement, individual imprisonment, contractual damages, reputational harm, diminished profits and the curtailment or restructuring of our operations. If any of the physicians or other providers or entities with whom we expect to do business are found to not be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs and imprisonment, which could affect our ability to operate our business. Further, defending against any such actions can be costly, time-consuming and may require significant personnel resources. Therefore, even if we are successful in defending against any such actions that may be brought against us, our business may be impaired.

Any clinical trial programs we conduct or research collaborations we enter into in the EEA may subject us to the GDPR.

If we conduct clinical trials or enter into research collaborations in the EEA, we may be subject to the GDPR. The GDPR applies extraterritorially and implements stringent operational requirements for processors and controllers of personal data, including, for example, high standards for obtaining consent from individuals to process then personal data, robust disclosures to individuals, a comprehensive individual data rights regime, data export restrictions governing transfers of data from the EU, to other jurisdictions, short timelines for data breach

notifications, limitations on retention of information, increased requirements pertaining to health data, other special categories of personal data and pseudonymised (i.e., key-coded) data and additional obligations if we contract third-party processors in connection with the processing of personal data. The GDPR provides that EU member states may establish their own laws and regulations limiting the processing of personal data, including genetic, biometric or health data, which could limit our ability to use and share personal data or could cause our costs to increase. If our or our partners' or service providers' privacy or data security measures fail to comply with GDPR requirements, we may be subject to litigation, regulatory investigations, enforcement notices requiring us to change the way we use personal data and/or fines of up to 20 million Euros or up to 4% of our total worldwide annual turnover of the preceding financial year, whichever is higher, as well as compensation claims by affected individuals, negative publicity, reputational harm and a potential loss of business and goodwill.

We are subject to environmental, health and safety laws and regulations, and we may become exposed to liability and substantial expenses in connection with environmental compliance or remediation activities.

Our operations, including our development, testing and manufacturing activities, are subject to numerous environmental, health and safety laws and regulations. These laws and regulations govern, among other things, the controlled use, handling, release and disposal of and the maintenance of a registry for, hazardous materials and biological materials, such as chemical solvents, human cells, carcinogenic compounds, mutagenic compounds and compounds that have a toxic effect on reproduction, laboratory procedures and exposure to blood-borne pathogens. If we fail to comply with such laws and regulations, we could be subject to fines or other sanctions.

As with other companies engaged in activities similar to ours, we face a risk of environmental liability inherent in our current and historical activities, including liability relating to releases of or exposure to hazardous or biological materials. Environmental, health and safety laws and regulations are becoming more stringent. We may be required to incur substantial expenses in connection with future environmental compliance or remediation activities, in which case, the production efforts of our third-party manufacturers or our development efforts may be interrupted or delayed.

We are subject to certain U.S. and foreign anti-corruption, anti-money laundering, export control, sanctions and other trade laws and regulations. We can face serious consequences for violations.

Among other matters, U.S. and foreign anti-corruption, anti-money laundering, export control, sanctions and other trade laws and regulations, which are collectively referred to as Trade Laws, prohibit companies and their employees, agents, clinical research organizations, legal counsel, accountants, consultants, contractors and other partners from authorizing, promising, offering, providing, soliciting or receiving, directly or indirectly, corrupt or improper payments or anything else of value to or from recipients in the public or private sector. We have direct or indirect interactions with officials and employees of government agencies or government-affiliated hospitals, universities and other organizations. We also expect our non-U.S. activities to increase in time. We plan to engage third parties for clinical trials and/or to obtain necessary permits, licenses, patent registrations and other regulatory approvals and we can be held liable for the corrupt or other illegal activities of our personnel, agents or partners, even if we do not explicitly authorize or have prior knowledge of such activities. Additionally, in many other countries, the healthcare providers who prescribe pharmaceuticals are employed by their government, and the purchasers of pharmaceuticals are government entities; therefore, our dealings with these prescribers and purchasers are subject to regulation under the Trade Laws. Violations of Trade Laws can result in substantial criminal fines and civil penalties, imprisonment, the loss of trade privileges, debarment, tax reassessments, breach of contract and fraud litigation, reputational harm and other consequences.

Risks Related to Our Intellectual Property

If we fail to comply with our obligations under our existing intellectual property license with BMS and any future intellectual property licenses with third parties, we could lose rights that are important to our business, including the right to develop and commercialize the AL101 and AL102 product candidates.

We are party to a license agreement with BMS which gives us the right to practice certain issued patents to develop and commercialize AL101 and AL102. We may enter into additional license agreements in the future. Our existing license agreements impose, and any future license agreements are likely to impose, various diligence, milestone payment, royalty, insurance and other obligations on us. Any uncured, material breach under these license agreements could result in the loss of our rights to practice such in-licensed intellectual property and could compromise our development and commercialization efforts for any current product candidates, including requiring us to cease the development and commercialization of AL101 and AL102, or future product candidates.

If we are unable to obtain, maintain, protect and enforce patent and other intellectual property protection for our technology and products or if the scope of the patent or other intellectual property protection obtained is not sufficiently broad, our competitors could develop and commercialize products and technology similar or identical to ours, and we may not be able to compete effectively in our markets.

We rely upon a combination of patents, trade secret protection and confidentiality agreements to protect the intellectual property related to our proprietary technologies, product candidate development programs and product candidates. Our success depends in large part on our ability to obtain and maintain patent protection in the United States and other countries with respect to AL101, AL102 and any future product candidates. We seek to protect our proprietary position by filing or collaborating with our licensors to file patent applications in the United States and abroad related to our development programs and product candidates. The patent prosecution process is expensive, time-consuming and complex, and we and our collaborators may not be able to file, prosecute, maintain or enforce all necessary or desirable patent applications at a reasonable cost or in a timely manner. Moreover, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain.

It is possible that we will fail to identify further patentable aspects of our research and development output before it is too late to obtain patent protection. Although we enter into confidentiality agreements with employees, consultants, CROs, contractors, manufacturers, advisors and other third parties who have access to our confidential information, any of these parties may breach the agreements and disclose such output before a patent application is filed, thereby jeopardizing our ability to seek patent protection. In addition, publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States, EU and elsewhere are published approximately 18 months after the earliest filing for which priority is claimed, or in some cases not at all. Therefore, we cannot be certain that we were the first to make the inventions claimed in our owned or any licensed patents or pending patent applications, or that we were the first to file for patent protection of such inventions. The patent applications that we own, or in-license, may fail to result in issued patents with claims that provide further coverage of AL101, AL102 or any other product candidate in the United States or in other foreign countries. There is no assurance that all of the potentially relevant prior art relating to our patents and patent applications has been found, which can invalidate a patent or prevent a patent from issuing from a pending patent application. Additionally, any U.S. provisional patent application that we or our licensors file is not eligible to become an issued patent until, among other things, we file a non-provisional patent application within 12 months of filing the related provisional patent application. If we or our licensors do not timely file any non-provisional patent application, we may lose our priority date with respect to the provisional patent application and any patent protection on the inventions disclosed in the provisional patent application. Even if patents do successfully issue and even if such patents further cover AL101, AL102 or any future product candidate, third parties may challenge their validity, ownership, enforceability or scope, which may result in such patents being narrowed, invalidated, circumvented, or held unenforceable. Any successful challenge to these patents or any other patents owned by or licensed to us could

deprive us of rights necessary for the successful commercialization of AL101, AL102, or any other product candidates that we may develop. Further, if we encounter delays in regulatory approvals, the period of time during which we could market a product candidate under patent protection could be reduced.

If the patent applications we own or have in-licensed with respect to our development programs and product candidates fail to issue, if their validity, breadth or strength of protection is threatened, or if they fail to provide meaningful exclusivity for AL101, AL102 or any future product candidate, it could dissuade companies from collaborating with us to develop product candidates, and threaten our ability to commercialize future product candidates. Any such outcome could have a material adverse effect on our business.

The patent position of biotechnology and pharmaceutical companies is highly uncertain, involves complex legal, scientific, and factual questions, and is characterized by the existence of large numbers of patents and frequent litigation based on allegations of patent or other intellectual property infringement, misappropriation or other violations. In addition, the laws of jurisdictions outside the United States may not protect our rights to the same extent as the laws of the United States. For example, European patent law restricts the patentability of methods of treatment of the human body more than United States law does. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish our ability to protect our inventions or obtain, maintain, and enforce our intellectual property rights and, more generally, could affect the value of our patents or narrow the scope of our patent protection. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain. Our pending and future patent applications may not result in the issuance of patents, or may result in the issuance of patents which fail to protect our technology or products, in whole or in part, or which fail to effectively prevent others from commercializing competitive technologies and products.

The issuance of a patent is not conclusive as to its inventorship, ownership, scope, validity or enforceability, and we may be subject to a third-party pre-issuance submission of prior art, or our owned and licensed patents may be challenged, in the courts or patent offices in the United States and abroad. Such challenges may result in loss of exclusivity or freedom to operate or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and products. Thus, even if our patent applications issue as patents, they may not issue in a form that will provide us with meaningful protection, prevent competitors from competing with us or otherwise provide us with any competitive advantage. Moreover, patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years after it is filed. Patent term extensions may be available; however the life of a patent, and the protection it affords, is limited. Without sufficient patent protection for our current or future product candidates, we may be open to competition from generic versions of such products. Our competitors or other third parties may also be able to circumvent our patents by developing similar or alternative technologies or products in a non-infringing manner.

In addition, given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. Moreover, some of our owned and in-licensed patents and patent applications are, and may in the future be, co-owned with third parties. If we are unable to obtain an exclusive license to any such third party co-owners' interest in such patents or patent applications, such co-owners may be able to license their rights to other third parties, including our competitors, and our competitors could market competing products and technology. In addition, we may need the cooperation of any such co-owners of our patents in order to enforce such patents against third parties, and such cooperation may not be provided to us. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Third parties may assert claims against us alleging infringement, misappropriation or other violation of their patents or other intellectual property rights, and we may need to become involved in lawsuits to protect or enforce our patents or other intellectual property rights, either of which could result in substantial costs or loss of productivity, delay or prevent the development and commercialization of our product candidates, prohibit our use of proprietary technology or sale of products or put our patents and other proprietary rights at risk.

Our commercial success depends, in part, upon our ability and the ability of our collaborators to develop, manufacture, market and sell our product candidates without alleged or actual infringement, misappropriation or other violations of the patents and proprietary rights of third parties. Litigation relating to infringement, misappropriation or other violation of patent and other intellectual property rights in the pharmaceutical and biotechnology industries is common, including patent infringement lawsuits, interferences, oppositions and post-grant review, *inter partes* review, reexamination and derivation proceedings before the U.S. Patent and Trademark Office, or USPTO, and corresponding foreign patent offices. The various markets in which we plan to operate are subject to frequent and extensive litigation regarding patents and other intellectual property rights, and third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future, regardless of their merit. In addition, many companies in intellectual property-dependent industries, including the biotechnology and pharmaceutical industries, have employed intellectual property litigation as a means to gain an advantage over their competitors. Numerous U.S., EU and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are developing product candidates, and as the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our product candidates may be subject to claims of infringement, misappropriation or other violation of the intellectual property rights of third parties. Some claimants may have substantially greater resources than we do and may be able to sustain the costs of complex intellectual property litigation to a greater degree and for longer periods of time than we could. In addition, patent holding companies that focus solely on extracting royalties and settlements by enforcing patent rights may target us.

We may be subject to third-party claims including infringement, interference or derivation proceedings, post-grant review, *inter partes* review and reexamination proceedings before the USPTO or similar adversarial proceedings or litigation in other jurisdictions. In order to successfully challenge the validity of any such U.S. patent in federal courts, we would need to overcome a presumption of validity. As this burden is a high one requiring us to present clear and convincing evidence as to the invalidity of any such U.S. patent claim, there is no assurance that a court of competent jurisdiction would invalidate the claims of any such U.S. patent. Even if we believe such claims are without merit, a court of competent jurisdiction could hold that any such third-party patents are valid, enforceable and infringed, and the holders of any such patents may be able to block our ability to commercialize the applicable product candidate unless we obtained a license under the applicable patents, or until such patents expire or are finally determined to be invalid or unenforceable. Similarly, if any third-party patents were held by a court of competent jurisdiction to cover aspects of our compositions, formulations, or methods of treatment, prevention or use, the holders of any such patents may be able to prohibit our use of those compositions, formulations, methods of treatment, prevention or use or other technologies, effectively blocking our ability to develop and commercialize the applicable product candidate until such patent expires or is finally determined to be invalid or unenforceable or unless we obtained a license.

In addition, defending such claims would cause us to incur substantial expenses and, if successful, could cause us to pay substantial damages if we are found to be infringing a third party's patent or other intellectual property rights. These damages potentially include increased damages (possibly treble damages) and attorneys' fees if we are found to have infringed such rights willfully. Further, if a patent or other intellectual property infringement suit is brought against us or our third-party service providers, our development, manufacturing or sales activities relating to the product or product candidate that is the subject of the suit may be delayed or terminated, as parties making claims against us may obtain injunctive or other equitable relief. As a result of patent or other intellectual property infringement claims, or in order to avoid potential infringement claims, we may choose to seek, or be required to seek, a license from the third party in order to develop and commercialize

the applicable product candidate, which may require payment of substantial royalties or fees, or require us to grant a cross-license under our intellectual property rights. These licenses may not be available on reasonable terms or at all. Even if a license can be obtained on reasonable terms, the rights may be non-exclusive, which would give our competitors access to the same intellectual property rights. If we are unable to enter into a license on acceptable terms, we could be prevented from commercializing one or more of our product candidates, or forced to modify such product candidates, or to cease some aspect of our business operations, which could harm our business significantly. We might also be forced to redesign or modify our product candidates so that we no longer infringe the third-party intellectual property rights, which may result in significant cost or delay to us, or which redesign or modification could be impossible or technically infeasible. Even if we were ultimately to prevail, any of these events could require us to divert substantial financial and management resources that we would otherwise be able to devote to our business. In addition, if the breadth or strength of protection provided the patents and patent applications we own or in-license is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates.

If we or one of our licensors or collaborators were to initiate legal proceedings against a third party to enforce an owned or in-licensed patent covering one of our product candidates, the defendant could counterclaim that such patent is invalid or unenforceable. In patent litigation in the United States and in Europe, defendant counterclaims alleging invalidity or unenforceability are commonplace, and a court may decide that a patent owned or in-licensed by us is invalid or unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our owned and in-licensed patents do not cover the technology in question. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, for example, lack of novelty, obviousness or non-enablement. Third parties might allege unenforceability of our patents because during prosecution of the patent an individual connected with such prosecution withheld relevant information, or made a misleading statement. The outcome of proceedings involving assertions of invalidity and unenforceability during patent litigation is unpredictable. With respect to the validity of patents, for example, we cannot be certain that there is no invalidating prior art of which we and the patent examiner were unaware during prosecution, but that an adverse third party may identify and submit in support of such assertions of invalidity. If a defendant were to prevail on a legal assertion of invalidity or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our product candidates. Our patents and other intellectual property rights also will not protect our technology if competitors design around our protected technology without infringing our patents or other intellectual property rights.

Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses and could distract our technical and management personnel from their normal responsibilities. In addition, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments, and if securities analysts or investors view these announcements in a negative light, the price of our common stock could be adversely affected. Such litigation or proceedings could substantially increase our operating losses and reduce our resources available for development activities. We may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have an adverse effect on our ability to compete in the marketplace. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations, and prospects.

We may not identify relevant third-party patents or may incorrectly interpret the relevance, scope or expiration of a third-party patent, which might adversely affect our ability to develop, manufacture and market our product candidates.

We cannot guarantee that any of our or our licensors' patent searches or analyses, including but not limited to the identification of relevant patents, the scope of patent claims or the expiration of relevant patents, are

complete or thorough, nor can we be certain that we have identified each and every third-party patent and pending application in the United States, Europe and elsewhere that is relevant to or necessary for the commercialization of our product candidates in any jurisdiction. For example, in the United States, applications filed before November 29, 2000 and certain applications filed after that date that will not be filed outside the United States remain confidential until patents issue. Patent applications in the United States, EU and elsewhere are published approximately 18 months after the earliest filing for which priority is claimed, with such earliest filing date being commonly referred to as the priority date. Therefore, patent applications covering our product candidates could be filed by others without our knowledge. Additionally, pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our product candidates or the use of our product candidates. After issuance, the scope of patent claims remains subject to construction as determined by an interpretation of the law, the written disclosure in a patent and the patent's prosecution history. Our interpretation of the relevance or the scope of a patent or a pending application may be incorrect, which may negatively impact our ability to market our product candidates. We may incorrectly determine that our product candidates are not covered by a third-party patent or may incorrectly predict whether a third party's pending application will issue with claims of relevant scope. Our determination of the expiration date of any patent in the United States, the EU or elsewhere that we consider relevant may be incorrect, which may negatively impact our ability to develop and market our product candidates. Our failure to identify and correctly interpret relevant patents may negatively impact our ability to develop and market our product candidates.

From time to time we may identify patents or applications in the same general area as our products and product candidates. We may determine these third-party patents are irrelevant to our business based on various factors including our interpretation of the scope of the patent claims and our interpretation of when the patent expires. If the patents are asserted against us, however, a court may disagree with our determinations. Further, while we may determine that the scope of claims that will issue from a patent application does not present a risk, it is difficult to accurately predict the scope of claims that will issue from a patent application, our determination may be incorrect, and the issuing patent may be asserted against us. We cannot guarantee that we will be able to successfully settle or otherwise resolve such infringement claims. If we fail in any such dispute, in addition to being forced to pay monetary damages, we may be temporarily or permanently prohibited from commercializing our product candidates or be required to obtain a license under such patent, which may not be available on reasonable terms or at all. We might, if possible, also be forced to redesign our product candidates so that we no longer infringe, misappropriate or otherwise violate the third-party intellectual property rights. Any of these events, even if we were ultimately to prevail, could require us to divert substantial financial and management resources that we would otherwise be able to devote to our business. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Changes in patent laws or patent jurisprudence could diminish the value of patents in general, thereby impairing our ability to protect our product candidates.

As is the case with other biopharmaceutical and pharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biopharmaceutical and pharmaceutical industries involve both technological and legal complexity. Therefore, obtaining and enforcing biopharmaceutical and pharmaceutical patents is costly, time-consuming and inherently uncertain. In addition, the Leahy-Smith America Invents Act, or the AIA, which was passed in September 2011, resulted in significant changes to the U.S. patent system.

An important change introduced by the AIA is that, as of March 16, 2013, the United States transitioned from a "first-to-invent" to a "first-to-file" system for deciding which party should be granted a patent when two or more patent applications are filed by different parties claiming the same invention. Under a "first-to-file" system, assuming the other requirements for patentability are met, the first inventor to file a patent application generally will be entitled to a patent on the invention regardless of whether another inventor had made the invention earlier. A third party that files a patent application in the USPTO after that date but before us could

therefore be awarded a patent covering an invention of ours even if we made the invention before it was made by the third party. This will require us to be cognizant of the time from invention to filing of a patent application and be diligent in filing patent applications, but circumstances could prevent us from promptly filing patent applications on our inventions.

Among some of the other changes introduced by the AIA are changes that limit where a patentee may file a patent infringement suit and providing opportunities for third parties to challenge any issued patent with the USPTO. This applies to all of our U.S. patents, even those issued before March 16, 2013. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in U.S. federal courts necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action.

Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action. It is not clear what, if any, impact the AIA will have on the operation of our business. However, the AIA and its implementation could increase the uncertainties and costs surrounding the prosecution of our or our licensors' patent applications and the enforcement or defense of our or our licensors' issued patents.

We may become involved in opposition, interference, derivation, *inter partes* review, post-grant review, reexamination or other proceedings challenging our or our licensors' patent rights, and the outcome of any proceedings are highly uncertain. An adverse determination in any such proceeding could reduce the scope of, or invalidate, our owned or in-licensed patent rights, in whole or in part, allow third parties to commercialize our technology or products and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights.

Additionally, the U.S. Supreme Court has ruled on several patent cases in recent years either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the validity, enforceability and value of patents, once obtained. Depending on decisions by Congress, the federal courts and the USPTO, as well as similar bodies in other jurisdictions, the laws and regulations governing patents could change in unpredictable ways that could weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future. Similarly, the complexity and uncertainty of European patent laws have also increased in recent years. In addition, the European patent system is relatively stringent in the type of amendments that are allowed during prosecution. Complying with these laws and regulations could limit our ability to obtain new patents in the future that may be important for our business, and these laws and regulations patents could continue to change in unpredictable ways that could have a material adverse effect on our existing patent rights and our ability to protect and enforce our intellectual property in the future.

Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

The USPTO and European and other patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. In addition, periodic maintenance, renewal and annuity fees on any issued patent are due to be paid to the USPTO and European and other patent agencies over the lifetime of a patent. While an inadvertent failure to make payment of such fees or to comply with such provisions can in many cases be cured by additional payment of a late fee or by other means in accordance with the applicable rules, there are situations in which such noncompliance will result in the abandonment or lapse of the patent or patent application, and the partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance events that could result in abandonment or lapse of a patent or

patent application include failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents within prescribed time limits. If we or our licensors fail to maintain the patents and patent applications covering our product candidates or if we or our licensors otherwise allow our patents or patent applications to be abandoned or lapse, our competitors might be able to enter the market, which would hurt our competitive position and could impair our ability to successfully commercialize our product candidates in any indication for which they are approved, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

We enjoy only limited geographical protection with respect to certain patents and we may not be able to protect our intellectual property and proprietary rights throughout the world.

Filing, prosecuting and defending patents covering our product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. In-licensing patents covering our product candidates in all countries throughout the world may similarly be prohibitively expensive, if such opportunities are available at all, and even in-licensing or filing, prosecuting and defending patents in only those jurisdictions in which we develop or commercialize our product candidates may still be prohibitively expensive or impractical. Competitors may use our and our licensors' technologies in jurisdictions where we have not obtained patent protection or licensed patents to develop their own products and, further, may export otherwise infringing products to territories where we and our licensors have patent protection, but enforcement is not as strong as that in the United States or the EU. These products may compete with our product candidates, and our or our licensors' patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

In addition, we may decide to abandon national and regional patent applications while they are still pending. The grant proceeding of each national or regional patent is an independent proceeding which may lead to situations in which applications may be rejected by the relevant patent office, while substantively similar applications are granted by others. For example, relative to other countries, China has a heightened requirement for patentability and specifically requires a detailed description of medical uses of a claimed drug. Furthermore, generic drug manufacturers or other competitors may challenge the scope, validity or enforceability of our or our licensors' patents, requiring us or our licensors to engage in complex, lengthy and costly litigation or other proceedings. Generic drug manufacturers may develop, seek approval for and launch generic versions of our products. It is also common for, depending on the country, the scope of patent protection to vary for the same product candidate or technology.

The laws of some jurisdictions do not protect intellectual property rights to the same extent as the laws or regulations in the United States and the EU, and many companies have encountered significant difficulties in protecting and defending proprietary rights in such jurisdictions. Moreover, the legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets or other forms of intellectual property, which could make it difficult for us to prevent competitors in some jurisdictions from marketing competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in foreign jurisdictions, whether or not successful, are likely to result in substantial costs and divert our efforts and attention from other aspects of our business, and additionally could put at risk our or our licensors' patents of being invalidated or interpreted narrowly, could increase the risk of our or our licensors' patent applications not issuing, or could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, while damages or other remedies may be awarded to the adverse party, which may be commercially significant. If we prevail, damages or other remedies awarded to us, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license. Furthermore, while we intend to protect our intellectual property rights in our expected significant markets, we cannot ensure that we will be able to initiate or maintain similar efforts in all jurisdictions in which we may wish to market our product candidates. Accordingly, our efforts to protect our intellectual property rights

in such countries may be inadequate, which may have an adverse effect on our ability to successfully commercialize our product candidates in all of our expected significant foreign markets. If we or our licensors encounter difficulties in protecting, or are otherwise precluded from effectively protecting, the intellectual property rights important for our business in such jurisdictions, the value of these rights may be diminished and we may face additional competition in those jurisdictions.

In some jurisdictions, compulsory licensing laws compel patent owners to grant licenses to third parties. In addition, some countries limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of such patent. If we or any of our licensors are forced to grant a license to third parties under patents relevant to our business, or if we or our licensors are prevented from enforcing patent rights against third parties, our competitive position may be substantially impaired in such jurisdictions. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations, and prospects.

If we do not obtain patent term extension in the United States under the Hatch-Waxman Act and in foreign countries under similar legislation, thereby potentially extending the term of marketing exclusivity for our product candidates, our business may be materially harmed.

The term of any individual patent depends on applicable law in the country where the patent is granted. In the United States, provided all maintenance fees are timely paid, a patent generally has a term of 20 years from its application filing date or earliest claimed non-provisional filing date. Extensions may be available under certain circumstances, but the life of a patent and, correspondingly, the protection it affords is limited. Even if we or our licensors obtain patents covering our product candidates, when the terms of all patents covering a product expire, our business may become subject to competition from competitive medications, including generic medications. Given the amount of time required for the development, testing and regulatory review and approval of new product candidates, patents protecting such candidates may expire before or shortly after such candidates are commercialized. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

In the United States, a patent that covers an FDA-approved drug or biologic may be eligible for a term extension designed to restore the period of the patent term that is lost during the premarket regulatory review process conducted by the FDA. Depending upon the timing, duration and conditions of FDA marketing approval of our product candidates, one or more of our U.S. patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, or the Hatch-Waxman Act, which permits a patent term extension of up to five years for a patent covering an approved product as compensation for effective patent term lost during product development and the FDA regulatory review process. While the length of such patent term extension is related to the length of time the drug is under regulatory review, patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, only one patent per approved drug may be extended and only those claims covering the approved drug product, a method for using it or a method for manufacturing it may be extended. In the EU, our product candidates may be eligible for patent term extensions based on similar legislation. In either jurisdiction, however, we may not receive an extension if we fail to apply within applicable deadlines, fail to apply prior to expiration of relevant patents, fail to exercise due diligence during the testing phase or regulatory review process or otherwise fail to satisfy applicable requirements. Even if we are granted such extension, the duration of such extension may be less than our request. If we are unable to obtain a patent term extension, or if the term of any such extension is less than our request, the period during which we can enforce our patent rights for that product will be in effect shortened and our competitors may obtain approval to market competing products sooner. The resulting reduction of years of revenue from applicable products could be substantial.

Further, under certain circumstances, patent terms covering our products or product candidates may be extended for time spent during the pendency of the patent application in the USPTO (referred to as patent term adjustment, or PTA). The laws and regulations underlying how the USPTO calculates the PTA is subject to

change and any such PTA granted by the USPTO could be challenged by a third party. If we do not prevail under such a challenge, the PTA may be reduced or eliminated, resulting in a shorter patent term, which may negatively impact our ability to exclude competitors. Because PTA added to the term of patents covering pharmaceutical products has particular value, our business may be adversely affected if the PTA is successfully challenged by a third party and our ability to exclude competitors is reduced or eliminated.

Our proprietary rights may not adequately protect our technologies and product candidates, and do not necessarily address all potential threats to our competitive advantage.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations, and may not adequately protect our business, or permit us to maintain our competitive advantage. The following examples are illustrative:

- others may be able to make products that are similar to AL101, AL102 or our future product candidates but that are not covered by the claims of the patents that we own or exclusively licensed;
- others, including inventors or developers of our owned or in-licensed patent technologies who may become involved with competitors, may independently develop similar or alternative technologies or otherwise circumvent any of our technologies without infringing our intellectual property rights;
- we or any of our collaborators might not have been the first to conceive and reduce to practice the inventions covered by the patents or patent applications that we own, license or will own or license;
- we or any of our collaborators might not have been the first to file patent applications covering certain of the patents or patent applications that we or they own, license or will own or license;
- it is possible that our pending patent applications will not lead to issued patents;
- it is possible that there are prior public disclosures that could invalidate our or our licensors' patents;
- issued patents that we own or exclusively license may not provide us with any competitive advantage, or may be held invalid or unenforceable, as a result of legal challenges by our competitors;
- our competitors might conduct research and development activities in countries where we do not have patent rights, or in countries where research and development safe harbor laws exist, and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- ownership, validity or enforceability of our or our licensors' patents or patent applications may be challenged by third parties; and
- the patents of third parties or pending or future applications of third parties, if issued, may have an adverse effect on our business.

Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Our reliance on third parties requires us to share our trade secrets, which increases the possibility that our trade secrets will be misappropriated or disclosed, and confidentiality agreements with employees and third parties may not adequately prevent disclosure of trade secrets and protect other proprietary information.

We consider proprietary trade secrets and confidential or unpatented know-how to be important to our business. We may rely on trade secrets or confidential know-how to protect our technology, especially where patent protection is believed by us to be of limited value. However, trade secrets and confidential know-how are difficult to protect, and we have limited control over the protection of trade secrets and confidential know-how used by our licensors, collaborators and suppliers. Because we expect to rely on third parties to manufacture AL101, AL102 and any future product candidates, and we expect to collaborate with third parties on the

development of AL101, AL102 and any future product candidates, we must, at times, share trade secrets with them. We also conduct joint research and development programs that may require us to share trade secrets under the terms of our research and development partnerships or similar agreements. Under such circumstances, trade secrets or confidential know-how can be difficult to maintain as confidential.

To protect this type of information against disclosure or appropriation by competitors, our policy is to require our employees, consultants, CROs, contractors, manufacturers, advisors and other third parties who have access to our confidential information to enter into confidentiality agreements and, if applicable, material transfer agreements, consulting agreements or other similar agreements with us prior to beginning research or us disclosing proprietary information. These agreements typically limit the rights of the third parties to use or disclose our confidential information, including our trade secrets. However, we cannot guarantee that we have entered into such agreements with each party that may have or have had access to our trade secrets or proprietary technology. Despite our efforts, any such parties may breach these agreements and unintentionally or willfully disclose our confidential information to competitors, and confidentiality agreements may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. The need to share trade secrets and other confidential information increases the risk that such trade secrets become known by our competitors, are inadvertently incorporated into the technology of others, or are disclosed or used in violation of these agreements. Given that our competitive position is based, in part, on our know-how and trade secrets, a competitor's discovery of our trade secrets or other unauthorized use or disclosure would impair our competitive position and may have an adverse effect on our business and results of operations. Enforcing a claim that a third party obtained illegally or misappropriated trade secrets or confidential know-how is expensive, time consuming and unpredictable, and the enforceability of confidentiality agreements and the protection of trade secrets generally may vary from jurisdiction to jurisdiction.

In addition, our agreements typically restrict the ability of our advisors, employees, third-party contractors, consultants, CROs, manufacturers, advisors and other third parties to publish data potentially relating to our trade secrets, although the agreements may grant certain limited publication rights. Despite our efforts to protect our trade secrets, our competitors or other third parties may discover our trade secrets, either through breach of our agreements with third parties, independent development or publication of information by any of our third-party collaborators. A competitor's or other third party's discovery of our trade secrets would impair our competitive position and have a material adverse effect on our business.

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

We may also rely on trademarks and trade names to protect our business. If our trademarks and trade names are not adequately protected, we may not be able to build name recognition in our markets of interest and our business may be adversely affected. We may not be able to protect our rights to these trademarks and trade names, which we need to build name recognition among potential partners or customers in our markets of interest. At times, competitors may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of our unregistered trademarks or trade names. Over the long term, if we are unable to successfully register our trademarks and trade names and establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively and our business may be adversely affected. Our efforts to enforce or protect our proprietary rights related to trademarks, trade secrets, domain names, copyrights or other intellectual property may be ineffective and could result in substantial costs and diversion of resources and could adversely impact our financial condition or results of operations.

We may need to license certain intellectual property from third parties, and such licenses may not be available or may not be available on commercially reasonable terms.

The growth of our business may depend in part on our ability to acquire or in-license additional intellectual property or proprietary rights. For example, our programs may involve product candidates that may require the use of additional intellectual property or proprietary rights held by third parties. Our product candidates may also require specific formulations to work effectively and efficiently, which may be covered by intellectual property rights held by others. We may also develop products containing combinations of our compositions and pre-existing pharmaceutical compositions, and could be required by the FDA or comparable foreign regulatory authorities to provide a companion diagnostic test or tests with our product candidates, both of which may also be covered by intellectual property rights held by others. We may be unable to acquire or in-license any relevant third-party intellectual property rights that we identify as necessary or important to our business operations at a reasonable cost or on reasonable terms, if at all. The licensing or acquisition of third-party intellectual property rights is a competitive area, and several more established companies may pursue strategies to license or acquire third-party intellectual property rights that we may consider attractive or necessary. These established companies may have a competitive advantage over us due to their size, capital resources and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. In cases where we are unable to procure sufficient rights to third-party intellectual property rights, we might need to cease use of the compositions or methods covered by such third-party intellectual property rights and/or develop alternative approaches that do not infringe, misappropriate or otherwise violate such intellectual property rights. This could entail additional costs and development delays, and the development of such alternatives may not be feasible. Even if we are able to obtain a license under such intellectual property rights, any such license may be non-exclusive, which may allow our competitors access to the same technologies licensed to us. Any of the foregoing could prevent us from developing or commercializing one or more of our product candidates, or force us to modify such product candidates, or to cease some aspect of our business operations, which could have a material adverse effect on our business.

We may be subject to claims that our employees, consultants or independent contractors have wrongfully used or disclosed confidential information of their former employers or other third parties or claims asserting ownership of what we regard as our own intellectual property.

We do and may employ and contract with individuals who were previously employed by other biotechnology or pharmaceutical companies. Although we seek to protect our ownership of intellectual property rights by ensuring that our agreements with our employees, collaborators and other third parties with whom we do business include provisions requiring such parties to assign rights in inventions to us and to not use the know-how or confidential information of their former employer or other third parties, we cannot guarantee that we have executed such agreements with all applicable parties. We may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed confidential information of our employees' former employers or other third parties. We may also be subject to claims that former employers or other third parties have an ownership interest in our patents. Litigation may be necessary to defend against these claims. There is no guarantee of success in defending these claims, and if we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable personnel or intellectual property rights, such as exclusive ownership of, or right to use, valuable intellectual property. Even if we are successful, litigation could result in substantial cost and be a distraction to our management and other employees.

In addition, while it is our policy to require our employees, contractors and other third parties who may be involved in the conception or development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who, in fact, conceives or develops intellectual property that we regard as our own. The assignment of intellectual property rights under such agreements may not be self-executing, or the assignment agreements may be breached, and we may be forced to bring claims against third parties, or defend claims that they may bring against us, to determine

the ownership of what we regard as our intellectual property. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Our use of "open source" software could subject our proprietary software to general release and subject us to possible litigation.

Our bioinformatics platform incorporates software licensed under so-called "open source" licenses and we may incorporate open source software into other technologies in the future. Usage of open source software can lead to greater risks than the use of other third-party commercial software, as open source licensors generally do not provide warranties or controls on origin of the software or other contractual protections or code quality, as it is generally freely accessible and made available to the general public on an "as-is" basis under the terms of a non-negotiable license. Some open source licenses contain requirements that the user disclose source code for modifications it makes to the open source software and license such modifications to third parties at no cost. We monitor our use of open source software in an effort to avoid uses in a manner that would require us to disclose or grant licenses under our proprietary source code based on our modifications of open source code. However, there can be no assurance that such efforts will be successful and we could face claims that we are utilizing open source software in breach of the applicable licenses, which could result in litigation that may cause us to be required to disclose our proprietary source code based on our modifications of open source code, incur expenses and be liable for damages and such litigation could distract our personnel from their normal responsibilities.

Risks Related to Our Employees, Managing Our Growth and Our Operations

Our future success depends on our ability to retain our key personnel and to attract, retain and motivate qualified personnel.

We are highly dependent on the development, regulatory, commercialization and business development expertise of Roni Mamluk, M.D., Ph.D., our Chief Executive Officer, as well as the other principal members of our management, scientific and clinical teams. Although we have formal employment agreements, offer letters or consulting agreements with our executive officers, these agreements do not prevent them from terminating their services at-will with 60 days' to three months' advance notice.

If we lose one or more of our executive officers or key employees, our ability to implement our business strategy successfully could be seriously harmed. Furthermore, replacing executive officers and key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to develop, gain regulatory approval of and commercialize product candidates successfully. Competition to hire from this limited pool is intense, and we may be unable to hire, train, retain or motivate these additional key personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be engaged by entities other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us. If we are unable to continue to attract and retain highly qualified personnel, our ability to develop and commercialize product candidates will be limited.

We may engage in acquisitions or in-licensing transactions that could disrupt our business, cause dilution to our stockholders or reduce our financial resources.

In the future, we may enter into transactions to acquire or license, as applicable, other businesses, products or technologies. If we do identify suitable candidates, we may not be able to make such acquisitions or licenses on favorable terms, or at all. Any acquisitions or in-license we make may not strengthen our competitive position, and these transactions may be viewed negatively by customers or investors. We may decide to incur

debt in connection with an acquisition or in-license or issue common stock or other equity securities to the stockholders of the counterparty, which would reduce the percentage ownership of our existing stockholders. We could incur losses resulting from undiscovered liabilities of the acquired business, product or technology that are not covered by the indemnification we may obtain from the seller. In addition, we may not be able to successfully integrate the acquired personnel, technologies and operations into our existing business in an effective, timely and non-disruptive manner. Acquisitions and in-licensing may also divert management attention from day-to-day responsibilities, increase our expenses and reduce our cash available for operations and other uses. We cannot predict the number, timing or size of future acquisitions or the effect that any such transactions might have on our operating results.

Our business and operations would suffer in the event of system failures.

Our computer systems, as well as those of our CROs and other contractors and consultants, are vulnerable to damage from computer viruses, unauthorized access, natural disasters (including hurricanes), terrorism, war and telecommunication and electrical failures. If such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our development programs. For example, the loss of preclinical or clinical trial data from completed, ongoing or planned trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss of or damage to our data or applications, or inappropriate disclosure of personal, confidential or proprietary information, we could incur liability and the further development of AL101, AL102 or any other product candidate could be delayed.

In the ordinary course of our business, we collect and store sensitive data, including intellectual property, clinical trial data, proprietary business information, personal data and personally identifiable information of our clinical trial subjects and employees, in our data centers and on our networks. The secure processing, maintenance and transmission of this information is critical to our operations. Despite our security measures, our information technology and infrastructure may be vulnerable to attacks by hackers or internal bad actors, or breached due to employee error, a technical vulnerability, malfeasance or other disruptions. Although, to our knowledge, we have not experienced any such material security breach to date, any such breach could compromise our networks and the information stored there could be accessed, publicly disclosed, lost or stolen. Any such access, disclosure or other loss of information could result in legal claims or proceedings, liability under laws that protect the privacy of personal information, significant regulatory penalties, and such an event could disrupt our operations, damage our reputation, and cause a loss of confidence in us and our ability to conduct clinical trials, which could adversely affect our reputation and delay our clinical development of our product candidates.

Risks Related to Our Common Stock and This Offering

No active trading market for our common stock currently exists, and an active trading market may not develop.

Prior to this offering, there has not been an active trading market for our common stock. If an active trading market for our common stock does not develop following this offering, you may not be able to sell your shares quickly or at the market price or at all. Our ability to raise capital to continue to fund operations by selling shares of our common stock and our ability to acquire other companies or technologies by using shares of our common stock as consideration may also be impaired. The initial public offering price of our common stock will be determined by negotiations between us and the underwriters, and may not be indicative of the market prices of our common stock that will prevail in the trading market.

The market price of our common stock may be volatile and fluctuate substantially, which could result in substantial losses for purchasers of our common stock in this offering.

Our stock price is likely to be volatile. The stock market in general and the market for smaller biopharmaceutical companies in particular have experienced extreme volatility that has often been unrelated to

the operating performance of particular companies. As a result of this volatility, you may not be able to sell your common stock at or above the initial public offering price. The market price for our common stock may be influenced by many factors, including:

- any delay in the completion of our Phase 2 ACCURACY trial of AL101 for the treatment of R/M ACC;
- inability to obtain additional funding;
- the success of competitive products or technologies;
- actual or expected changes in our growth rate relative to our competitors;
- results of clinical trials of our product candidates or those of our competitors;
- developments related to our existing or any future collaborations;
- adverse regulatory decisions;
- regulatory actions with respect to our product candidates or our competitors' products and product candidates;
- regulatory or legal developments in the United States and other countries;
- development of new product candidates that may address our markets and make our product candidates less attractive;
- changes in physician, hospital or healthcare provider practices that may make our product candidates less useful;
- inability to obtain adequate product supply for AL101, AL102 or any other product candidate, or the inability to do so at acceptable prices;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key scientific or management personnel;
- the level of expenses related to any of our product candidates or clinical development programs;
- failure to meet or exceed financial estimates and projections of the investment community or that we provide to the public;
- the results of our efforts to discover, develop, acquire or in-license additional product candidates or products;
- actual or expected changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors;
- announcements of significant acquisitions, strategic collaborations, joint ventures or capital commitments by us or our competitors;
- significant lawsuits, including patent or shareholder litigation, and disputes or other developments relating to our proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;
- trading volume of our common stock;
- general economic, industry and market conditions; and
- the other factors described in this "Risk Factors" section and elsewhere in this prospectus.

In addition, the trading prices for common stock of other biopharmaceutical companies have been highly volatile as a result of the COVID-19 pandemic. The COVID-19 outbreak continues to rapidly evolve. The extent to which the outbreak may impact our business, preclinical studies and clinical trials will depend on future developments, which are highly uncertain and cannot be predicted with confidence.

In the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because biopharmaceutical companies have experienced significant stock price volatility in recent years. If we face such litigation, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

After this offering, our executive officers, directors and principal stockholders, if they choose to act together, will continue to have the ability to control or significantly influence all matters submitted to stockholders for approval.

Upon the closing of this offering, based on the number of shares of common stock outstanding as of March 31, 2020, our executive officers, directors and stockholders who owned more than 5% of our outstanding common stock before this offering and their respective affiliates will, in the aggregate, hold shares representing approximately 68.58% of our outstanding voting stock (or 65.86% of our outstanding voting stock if the underwriters exercise in full their option to purchase additional shares of our common stock), without giving effect to any potential purchases by these stockholders in this offering. As a result, if these stockholders choose to act together, they would be able to control or significantly influence all matters submitted to our stockholders for approval, as well as our management and affairs. For example, these persons, if they choose to act together, would control or significantly influence the election of directors, the composition of our management and approval of any merger, consolidation or sale of all or substantially all of our assets.

If you purchase shares of common stock in this offering, you will suffer immediate dilution of your investment.

The initial public offering price of our common stock is substantially higher than the pro forma as adjusted net tangible book value per share of our common stock. Therefore, if you purchase shares of our common stock in this offering, you will pay a price per share that substantially exceeds our pro forma as adjusted net tangible book value per share after this offering. Based on the initial public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, you will experience immediate dilution of $10.12 per share as of December 31, 2019, representing the difference between our pro forma as adjusted net tangible book value per share, after giving effect to this offering, and the assumed initial public offering price. To the extent shares subsequently are issued under outstanding options or warrants, you will incur further dilution. See "Dilution."

We have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

Our management will have broad discretion in the application of the net proceeds from this offering and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common stock. We anticipate that we will use the net proceeds of this offering, together with our existing cash and cash equivalents and short-term restricted bank deposits, to advance the clinical development of AL101 and AL102 and the remainder, if any, for working capital and general corporate purposes, as set forth under "Use of Proceeds." However, our use of these proceeds may differ substantially from our current plans. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the price of our common stock to decline and delay the development of our product candidates. Pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

Participation in this offering by our existing stockholders and/or their affiliated entities may reduce the public float for our common stock.

To the extent certain of our existing stockholders and their affiliated entities participate in this offering, such purchases would reduce the non-affiliate public float of our shares, meaning the number of shares of our common stock that are not held by officers, directors and principal stockholders. A reduction in the public float could reduce the number of shares that are available to be traded at any given time, thereby adversely impacting the liquidity of our common stock and depressing the price at which you may be able to sell shares of common stock purchased in this offering.

A significant portion of our total outstanding shares are eligible to be sold into the market in the near future, which could cause the market price of our common stock to drop significantly, even if our business is doing well.

Sales of a substantial number of shares of our common stock in the public market, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock. After this offering, we will have outstanding 12,113,278 shares of common stock based on the number of shares outstanding as of March 31, 2020. This includes the shares that we are selling in this offering, which may be resold in the public market immediately without restriction, unless purchased by our affiliates or existing stockholders. Substantially all of the remaining 8,779,944 shares are currently restricted as a result of securities laws or lock-up agreements, which may be waived by Citigroup Global Markets Inc. and Jefferies LLC, but will become eligible to be sold at various times beginning 180 days after this offering, unless held by one of our affiliates, in which case the resale of those securities will be subject to volume limitations under Rule 144 of the Securities Act of 1933, as amended, or Rule 144. Moreover, after this offering, holders of an aggregate of 6,895,426 shares of our common stock will have rights, subject to specified conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders, until such shares can otherwise be sold without restriction under Rule 144 or until the rights terminate pursuant to the terms of the investors' rights agreement between us and such holders. We also intend to register all shares of common stock that we may issue under our equity compensation plans. Once we register these shares, they can be freely sold in the public market upon issuance, subject to volume limitations applicable to affiliates and the lock-up agreements described in the "Underwriting" section of this prospectus.

We are an "emerging growth company," and the reduced disclosure requirements applicable to emerging growth companies may make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and may remain an emerging growth company until the last day of the fiscal year following the fifth anniversary of the closing of this offering. However, if certain events occur prior to the end of such five-year period, including if we become a "large accelerated filer," our annual gross revenues exceed $1.07 billion or we issue more than $1.0 billion of non-convertible debt in any three-year period, we will cease to be an emerging growth company prior to the end of such five-year period. For so long as we remain an emerging growth company, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include:

- being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure in this prospectus;
- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;

- reduced disclosure obligations regarding executive compensation; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved.

We have taken advantage of reduced reporting burdens in this prospectus. In particular, in this prospectus, we have provided only two years of audited financial statements and have not included all of the executive compensation related information that would be required if we were not an emerging growth company. We cannot predict whether investors will find our common stock less attractive if we rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our stock and our stock price may be reduced or become more volatile. In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of these accounting standards until they would otherwise apply to private companies. We have elected to take advantage of this extended transition period.

We will incur increased costs as a result of operating as a public company, and our management will be required to devote substantial time to new compliance initiatives and corporate governance practices.

As a public company, and particularly after we are no longer an emerging growth company, we will incur significant legal, accounting and other expenses that we did not incur as a private company. The Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of The Nasdaq Global Market and other applicable securities rules and regulations impose various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. For example, we expect that these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance, which in turn could make it more difficult for us to attract and retain qualified members of our board of directors.

We are evaluating these rules and regulations, and cannot predict or estimate the amount of additional costs we may incur or the timing of such costs. These rules and regulations are often subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices.

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404, we will be required to furnish a report by our management on our internal control over financial reporting. However, while we remain an emerging growth company, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants, adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing whether such controls are functioning as documented, and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that we will not be able to conclude, within the prescribed time frame or at all, that our internal control over financial reporting is effective as required by Section 404. If we identify one or more material weaknesses, it could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

If securities or industry analysts do not publish research or reports about our business, or if they issue an adverse, inaccurate or misleading opinion regarding our business, our stock price and trading volume may be negatively impacted.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts publish about us or our business. We do not currently have, and may never obtain, research coverage by securities and industry analysts. If no or few securities or industry analysts commence coverage of us, the trading price for our stock would be negatively impacted. In the event we obtain securities or industry analyst coverage, if any of the analysts who cover us issue an adverse, inaccurate or misleading opinion regarding us, our business model, our intellectual property or our stock performance, or if our target operating results fail to meet the expectations of analysts, our stock price would likely decline. If one or more of these analysts ceases coverage of us or fails to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

We are a "smaller reporting company" and the reduced disclosure requirements applicable to smaller reporting companies may make our common stock less attractive to investors.

We are considered a "smaller reporting company." We are therefore entitled to rely on certain reduced disclosure requirements, such as an exemption from providing selected financial data and executive compensation information. We are also exempt from the requirement to obtain an external audit on the effectiveness of internal control over financial reporting provided in Section 404(b) of the Sarbanes-Oxley Act. These exemptions and reduced disclosures in our SEC filings due to our status as a smaller reporting company mean our auditors do not review our internal control over financial reporting and may make it harder for investors to analyze our results of operations and financial prospects. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock prices may be more volatile.

Provisions in our restated certificate of incorporation and restated bylaws and under Delaware law could make an acquisition of our company, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our restated certificate of incorporation and our restated bylaws, which will become effective upon the closing of this offering may discourage, delay or prevent a merger, acquisition or other change in control of our company that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, because our board of directors is responsible for appointing the members of our management team, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Among other things, these provisions include those establishing:

- a classified board of directors with three-year staggered terms, which may delay the ability of stockholders to change the membership of a majority of our board of directors;
- no cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- the exclusive right of our board of directors to elect a director to fill a vacancy created by the expansion of the board of directors or the resignation, death or removal of a director, which prevents stockholders from filling vacancies on our board of directors;
- the ability of our board of directors to authorize the issuance of shares of preferred stock and to determine the terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquirer;

- the ability of our board of directors to alter our bylaws without obtaining stockholder approval;
- the required approval of the holders of at least two-thirds of the shares entitled to vote at an election of directors to adopt, amend or repeal our bylaws or repeal the provisions of our restated certificate of incorporation regarding the election and removal of directors;
- a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;
- the requirement that a special meeting of stockholders may be called only by the chairman of the board of directors, the chief executive officer, the president or the board of directors, which may delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors; and
- advance notice procedures that stockholders must comply with in order to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders' meeting, which may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of us.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the General Corporation Law of the State of Delaware, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner. Furthermore, our restated certificate of incorporation, which will become effective upon the closing of this offering, specifies that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for most legal actions involving claims brought against us by stockholders. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and to have consented to the provisions of our restated certificate of incorporation described above.

We believe this provision benefits us by providing increased consistency in the application of Delaware law by chancellors particularly experienced in resolving corporate disputes, efficient administration of cases on a more expedited schedule relative to other forums and protection against the burdens of multi-forum litigation. However, the provision may have the effect of discouraging lawsuits against our directors, officers, employees and agents as it may limit any stockholder's ability to bring a claim in a judicial forum that such stockholder finds favorable for disputes with us or our directors, officers, employees or agents. The enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that, in connection with any applicable action brought against us, a court could find the choice of forum provisions contained in our restated certificate of incorporation to be inapplicable or unenforceable in such action. If a court were to find the choice of forum provision contained in our restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could adversely affect our business, financial condition or results of operations.

Our restated certificate of incorporation will designate specific courts as the exclusive forum for certain litigation that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us.

Our restated certificate of incorporation, which will become effective upon the closing of this offering, specifies that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for most legal actions involving claims brought against us by stockholders; provided that, the exclusive forum provision will not apply to suits brought to enforce any liability or duty created by the Securities Act, the Exchange Act, the rules and regulations thereunder or any other claim for which the federal courts have exclusive jurisdiction; and provided further that, if and only if the Court

of Chancery of the State of Delaware dismisses any such action for lack of subject matter jurisdiction, such action may be brought in another state or federal court sitting in the State of Delaware. Our restated certificate of incorporation further provides that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States of America shall, to the fullest extent permitted by law, be the sole and exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and to have consented to the provisions of our restated certificate of incorporation described above.

We believe these provisions benefit us by providing increased consistency in the application of Delaware law by chancellors particularly experienced in resolving corporate disputes and in the application of the Securities Act by federal judges, as applicable, efficient administration of cases on a more expedited schedule relative to other forums and protection against the burdens of multi-forum litigation. However, the provision may have the effect of discouraging lawsuits against our directors, officers, employees and agents as it may limit any stockholder's ability to bring a claim in a judicial forum that such stockholder finds favorable for disputes with us or our directors, officers, employees or agents. The enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that, in connection with any applicable action brought against us, a court could find the choice of forum provisions contained in our restated certificate of incorporation to be inapplicable or unenforceable in such action. If a court were to find the choice of forum provision contained in our restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could adversely affect our business, financial condition or results of operations.

Because we do not anticipate paying any cash dividends on our common stock in the foreseeable future, capital appreciation, if any, would be your sole source of gain.

We have never declared or paid any cash dividends on our common stock. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. As a result, capital appreciation, if any, of our common stock would be your sole source of gain on an investment in our common stock for the foreseeable future. See the "Dividend Policy" section of this prospectus for additional information.

It may be difficult to enforce a U.S. judgment against us, our officers and directors named in this prospectus in Israel or the United States, or to assert U.S. securities laws claims in Israel or serve process on our officers and directors.

Not all of our directors or officers are residents of the United States and most of their and our assets are located outside the United States. Service of process upon our non-U.S. resident directors and officers may be difficult to obtain within the United States. We have been informed by our legal counsel in Israel that it may be difficult to assert claims under U.S. securities laws in original actions instituted in Israel or obtain a judgment based on the civil liability provisions of U.S. federal securities laws. Israeli courts may refuse to hear a claim based on a violation of U.S. securities laws against us or our non-U.S. officers and directors because Israel may not be the most appropriate forum to bring such a claim. In addition, even if an Israeli court agrees to hear a claim, it may determine that Israeli law and not U.S. law is applicable to the claim. If U.S. law is found to be applicable, the content of applicable U.S. law must be proved as a fact, which can be a time-consuming and costly process. Certain matters of procedure will also be governed by Israeli law. There is little binding case law in Israel addressing the matters described above. Additionally, Israeli courts might not enforce judgments obtained in the United States against us or our non-U.S. directors and executive officers, which may make it difficult to collect on judgments rendered against us or our non-U.S. officers and directors.

Moreover, an Israeli court will not enforce a non-Israeli judgment if it was given in a state whose laws do not provide for the enforcement of judgments of Israeli courts (subject to exceptional cases), if its enforcement is

likely to prejudice the sovereignty or security of the State of Israel, if it was obtained by fraud or in the absence of due process, if it is at variance with another valid judgment that was given in the same matter between the same parties, or if a suit in the same matter between the same parties was pending before a court or tribunal in Israel at the time the foreign action was brought.

We could be subject to securities class action litigation.

In the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because biopharmaceutical companies have experienced significant stock price volatility in recent years. If we face such litigation, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

Recent U.S. tax legislation may materially adversely affect our financial condition, results of operations and cash flows.

Recently enacted U.S. tax legislation has significantly changed the U.S. federal income taxation of U.S. corporations, including by reducing the U.S. corporate income tax rate, limiting interest deductions, and revising the rules governing net operating losses. Many of these changes are effective immediately, without any transition periods or grandfathering for existing transactions. The legislation is unclear in many respects and could be subject to potential amendments and technical corrections, as well as interpretations and implementing regulations by the Treasury and Internal Revenue Service, any of which could lessen or increase certain adverse impacts of the legislation. In addition, it is unclear how these U.S. federal income tax changes will affect state and local taxation, which often uses federal taxable income as a starting point for computing state and local tax liabilities.

The reduction of the corporate tax rate under the legislation may cause a reduction in the economic benefit of our net operating loss carryforwards and other deferred tax assets available to us. Furthermore, under the legislation (as recently modified by the Coronavirus Aid, Relief, and Economic Security Act), although the treatment of tax losses generated before December 31, 2017 has generally not changed, for taxable years beginning after December 31, 2020, utilization of NOLs generated in tax years beginning after December 31, 2017 are limited to a maximum of 80% of the taxable income for such year, after taking into account utilization of NOLs generated in years beginning before January 1, 2018 and determined without regard to such NOL deduction. This change may require us to pay federal income taxes in future years despite generating a loss for federal income tax purposes in prior years.

While some of the changes made by the tax legislation may adversely affect us in one or more reporting periods and prospectively, other changes may be beneficial on a going-forward basis. We continue to work with our tax advisors and auditors to determine the full impact that the recent tax legislation as a whole will have on us. We urge our investors to consult with their legal and tax advisors with respect to such legislation.

Risks Related to Our Operations in Israel

Political, economic and military instability in Israel may impede our ability to operate and harm our financial results.

Our principal executive offices and research and development facilities are located in Israel. Accordingly, political, economic and military conditions in Israel and the surrounding region could directly affect our business. Since the establishment of the State of Israel in 1948, a number of armed conflicts have occurred between Israel and its Arab neighbors, Hamas (an Islamist militia and political group in the Gaza Strip) and Hezbollah (an Islamist militia and political group in Lebanon). Any hostilities involving Israel or the interruption or curtailment of trade between Israel and its present trading partners could adversely affect our operations. Ongoing and revived hostilities or other Israeli political or economic factors, could prevent or delay shipments of

our products, harm our operations and product development and cause any future sales to decrease. In the event that hostilities disrupt the ongoing operation of our facilities or the airports and seaports on which we depend to import and export our supplies and products, our operations may be materially adverse affected. Furthermore, in the past, the State of Israel and Israeli companies have been subjected to economic boycotts. Several countries, principally those in the Middle East, still restrict business with Israel and Israeli companies, and additional countries may impose restrictions on doing business with Israel and Israeli companies if hostilities in Israel or political instability in the region continues or increases. These restrictive laws and policies may seriously limit our ability to sell our products in these countries and may have an adverse impact on our operating results, financial conditions or the expansion of our business.

In addition, political uprisings and conflicts in various countries in the Middle East are affecting the political stability of those countries. This instability has raised concerns regarding security in the region and the potential for armed conflict. In Syria, a country bordering Israel, a civil war is taking place. In addition, there are concerns that Iran, which has previously threatened to attack Israel, may step up its efforts to achieve nuclear capability. Iran is also believed to have a strong influence among extremist groups in the region, such as Hamas in Gaza and Hezbollah in Lebanon, as well as a growing presence in Syria. Additionally, the Islamic State of Iraq and Levant, or ISIL, a violent jihadist group whose stated purpose is to take control of the Middle East, remains active in areas within close proximity to Israeli borders. The tension between Israel and Iran and/or these groups may escalate in the future and turn violent, which could affect the Israeli economy in general and us in particular. Any potential future conflict could also include missile strikes against parts of Israel, including our offices and facilities. Such instability may lead to deterioration in the political and trade relationships that exist between the State of Israel and certain other countries. Any armed conflicts, terrorist activities or political instability in the region could adversely affect business conditions, could harm our results of operations and could make it more difficult for us to raise capital. Parties with whom we do business may be disinclined to travel to Israel during periods of heightened unrest or tension, forcing us to make alternative arrangements when necessary in order to meet our business partners face to face. In addition, the political and security situation in Israel may result in parties with whom we have agreements involving performance in Israel claiming that they are not obligated to perform their commitments under those agreements pursuant to force majeure provisions in such agreements.

Our insurance does not cover losses that may occur as a result of an event associated with the security situation in the Middle East or for any resulting disruption in our operations. Although the Israeli government has in the past covered the reinstatement value of direct damages that were caused by terrorist attacks or acts of war, we cannot be assured that this government coverage will be maintained or, if maintained, will be sufficient to compensate us fully for damages incurred and the government may cease providing such coverage or the coverage might not suffice to cover potential damages. Any losses or damages incurred by us could have a material adverse effect on our business. Any armed conflicts, political instability, terrorism, cyberattacks or any other hostilities involving or threatening Israel would likely negatively affect business conditions generally and could harm our results of operations.

On Israel’s domestic front, there is currently a level of unprecedented political instability. The Israeli government has been in a transitionary phase since December 2018, when the Israeli Parliament, or the Knesset, first resolved to dissolve itself and call for new general elections. In 2019, Israel held general elections twice, in April and September, and a third general election was held in March 2020. The Knesset, for reasons related to this extended political transition, has failed to pass a budget for the year 2020, and certain government ministries, which may be critical to the operation of our business, are without necessary resources and may not receive sufficient funding moving forward. Given the likelihood that the current political stalemate may not be resolved during the next calendar year, our ability to conduct our business effectively may be adversely materially affected.

Our operations may be disrupted by the obligations of our personnel to perform military service.

Some of our employees in Israel are obligated to perform up to 36 days, and in some cases longer periods, of military reserve duty annually until they reach the age of 40 (or older, for citizens who hold certain positions

in the Israeli armed forces reserves) and, in the event of a military conflict or emergency situations, could be called to immediate active duty for extended periods of time. In response to increases in terrorist activity, there have been periods of significant call-ups of military reservists. It is possible that there will be similar large-scale military reserve duty call-ups in the future. Our operations could be disrupted by the absence due to military service of a significant number of our employees or of one or more of our key employees for extended periods of time, and such disruption could materially adversely affect our business. Additionally, the absence of a significant number of the employees of our Israeli suppliers and subcontractors related to military service or the absence for extended periods of one or more of their key employees for military service may disrupt their operations which may subsequently disrupt our operations.

We may become subject to claims for remuneration or royalties for assigned service invention rights by our employees, which could result in litigation and adversely affect our business.

We have entered into assignment of invention agreements with our employees pursuant to which such individuals agree to assign to us all rights to any inventions created during their employment or engagement with us. A significant portion of our intellectual property has been developed by our employees in the course of their employment with us. Under the Israeli Patent Law, 1967, or the Patent Law, inventions conceived by an employee during the scope of his or her employment with a company and as a result thereof are regarded as "service inventions," which belong to the employer, absent a specific agreement between the employee and employer giving the employee service invention rights. The Patent Law also provides that if there is no agreement between an employer and an employee with respect to the employee's right to receive compensation for such "service inventions," the Israeli Compensation and Royalties Committee, or the Committee, a body constituted under the Patent Law, shall determine whether the employee is entitled to remuneration for his or her service inventions and the scope and conditions for such remuneration. The Committee will examine, on a case-by-case basis, the general contractual framework between the parties, using interpretation rules of the general Israeli contract laws. Further, the Committee has not yet determined one specific formula for calculating this remuneration (but rather uses the criteria specified in the Patent Law). Although our employees have agreed to assign to us service invention rights, as a result of uncertainty under Israeli law with respect to the efficacy of waivers of service invention rights, we may face claims demanding remuneration in consideration for assigned inventions. As a consequence of such claims, we could be required to pay additional remuneration or royalties to our current and/or former employees, or be forced to litigate such claims, which could negatively affect our business.

Our operations may be affected by negative economic conditions or labor unrest in Israel.

General strikes or work stoppages, including at Israeli ports, have occurred periodically or have been threatened in the past by Israeli trade unions due to labor disputes. These general strikes or work stoppages may have an adverse effect on the Israeli economy and on our business, including our ability to receive raw materials from our suppliers in a timely manner and could have a material adverse effect on our results of operations.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements. All statements other than statements of historical facts contained in this prospectus are forward-looking statements, including but not limited to statements regarding:

- our plans to develop and commercialize our product candidates;
- the timing of our ongoing or planned clinical trials for AL101, AL102 and any future product candidates;
- the timing of and our ability to obtain and maintain regulatory approvals for AL101, AL102 and any future product candidates;
- the clinical utility of our product candidates;
- our commercialization, marketing and manufacturing capabilities and strategy;
- our ability to collaborate with leading diagnostic companies to develop diagnostic tests for identifying patients with Notch-activating mutations;
- our expectation about the willingness of healthcare professionals to use AL101, AL102 and any future product candidates;
- our ability to obtain, maintain, protect and enforce intellectual property protection for our product candidates;
- our expected use of proceeds from this offering;
- our competitive position and the development of, and projections relating to, our competitors or our industry;
- our ability to identify, recruit and retain key personnel;
- the impact of laws and regulations;
- our expectations regarding the time during which we will be an emerging growth company under the JOBS Act;
- our plans to identify additional product candidates with significant commercial potential that are consistent with our commercial objectives;
- research and development cost;
- our estimates and statements regarding our future revenue, future results of operations and financial position;
- our business strategy;
- risks associated with the COVID-19 outbreak, which may adversely impact our business and clinical trials;
- our research and development costs;
- our plans and objectives of management for future operations; and
- the plans and objectives of management.

These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

In some cases, you can identify forward-looking statements by terms such as “may,” “will,” “should,” “expect,” “plan,” “anticipate,” “could,” “intend,” “target,” “project,” “contemplate,” “believe,” “estimate,”

"predict," "potential," "would" or "continue" or the negative of these terms or other similar expressions, although not all forward-looking statements contain these words. The forward-looking statements in this prospectus are only predictions and are based largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition and results of operations. These forward-looking statements speak only as of the date of this prospectus and are subject to a number of known and unknown risks, uncertainties and assumptions, including those described under the sections in this prospectus entitled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and elsewhere in this prospectus. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Moreover, we operate in an evolving environment. New risk factors and uncertainties may emerge from time to time, and it is not possible for management to predict all risk factors and uncertainties. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise. The forward-looking statements contained in this prospectus are excluded from the safe harbor protection provided by the Private Securities Litigation Reform Act of 1995 and Section 27A of the Securities Act of 1933, as amended.

MARKET AND INDUSTRY DATA

We obtained the industry, market and competitive position data in this prospectus from our own internal estimates and research as well as from industry and general publications and research and studies conducted by third parties. Industry publications and studies generally state that they have been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. We have not independently verified market and industry data from third-party sources. Management's estimates are derived from publicly available information, their knowledge of our industry and their assumptions based on such information and knowledge, which we believe to be reasonable. While we believe our internal company research as to such matters is reliable and the market definitions are appropriate, neither such research nor these definitions have been verified by any independent source. These data involve a number of assumptions and limitations which are necessarily subject to a high degree of uncertainty and risk due to a variety of factors, including those described in "Risk Factors." These and other factors could cause our future performance to differ materially from our assumptions and estimates.

USE OF PROCEEDS

We estimate that the net proceeds to us from our issuance and sale of shares of our common stock in this offering will be approximately $44.4 million, assuming an initial public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us. If the underwriters exercise in full their option to purchase additional shares of our common stock, we estimate that our net proceeds will be approximately $51.3 million.

We anticipate that we will use the net proceeds of this offering, together with our existing cash and cash equivalents and short-term restricted bank deposits, for the following purposes:

- approximately $13.0 to $14.0 million to advance AL101 through its ongoing Phase 2 ACCURACY trial for the treatment of R/M ACC;
- approximately $11.0 to $12.0 million to advance AL101 for its planned Phase 2 trial for the treatment of R/M TNBC;
- approximately $6.0 to $7.0 million to advance AL101 for its planned Phase 2 trial for the treatment of R/R TALL;
- approximately $7.0 to $8.0 million to advance AL102 for its planned Phase 2 trial for the treatment of desmoid tumors; and
- the remainder for working capital and general corporate purposes.

As of March 31, 2020, we had $10.1 million of cash and cash equivalents and short-term restricted bank deposits on hand. Based on our planned use of the net proceeds of this offering and with our existing cash and cash equivalents and short-term restricted bank deposits and the net proceeds of this offering, we estimate that such funds will be sufficient to enable us to fund our operating expenses and capital expenditure requirements into the second half of 2022. With our existing cash and cash equivalents and short-term restricted bank deposits and the net proceeds of this offering, we expect to be able to complete our Phase 2 clinical trial of AL101 for the treatment of R/M ACC; advance the clinical development of AL101 for the treatment of R/M TNBC through reporting of interim data with respect to the first cohort in our planned Phase 2 clinical trial; advance the clinical development of AL101 for the treatment of R/R T-ALL through dosing of subjects in our planned Phase 2 clinical trial; and advance the clinical development of AL102 for the treatment of desmoid tumors through dosing of subjects in our planned Phase 2 clinical trial. We have based these estimates on assumptions that may prove to be incorrect, and we could use our available capital resources sooner than we currently expect. In any event, we will require additional funding to complete the clinical development of AL101 for the treatment of R/M ACC, complete the Phase 2 trials and further clinical development of AL101 for other indications and of our other product candidates and commercialize any of our product candidates, and we do not yet have any committed source of funding for these actions. We may satisfy our future cash needs through the sale of equity securities, debt financings, working capital lines of credit, corporate collaborations or license agreements, grant funding, interest income earned on invested cash balances or a combination of one or more of these sources.

Each $1.00 increase (decrease) in the assumed initial public offering price of $15.00 per share would increase (decrease) the net proceeds to us from this offering by approximately $3.1 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus remains the same and after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us. Each increase (decrease) of 1.0 million in the number of shares we are offering would increase (decrease) the net proceeds to us from this offering, after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us, by $14.0 million, assuming the assumed initial public offering price stays the same.

This expected use of the net proceeds from this offering represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. We may also use a portion of the net proceeds to in-license, acquire, or invest in additional businesses, technologies, products or assets, although currently we have no specific agreements, commitments or understandings in this

regard. As of the date of this prospectus, we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the closing of this offering or the amounts that we will actually spend on the uses set forth above. Predicting the cost necessary to develop product candidates can be difficult and we anticipate that we will need additional funds to complete the development of any product candidates we identify. The amounts and timing of our actual expenditures and the extent of clinical development may vary significantly depending on numerous factors, including the progress of our development efforts, the status of and results from preclinical studies and any ongoing clinical trials or clinical trials we may commence in the future, as well as any collaborations that we may enter into with third parties for our product candidates and any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering.

Pending our use of the net proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation investments, including short-term and intermediate-term, investment-grade, interest-bearing instruments and U.S. government securities.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain all available funds and future earnings, if any, for the operation and expansion of our business and do not anticipate declaring or paying any dividends in the foreseeable future. The payment of dividends, if any, will be at the discretion of our board of directors and will depend on our results of operations, capital requirements, financial condition, prospects, contractual arrangements, any limitations on payment of dividends present in our future debt agreements, and other factors that our board of directors may deem relevant.

CAPITALIZATION

The following table sets forth our cash and cash equivalents and short-term restricted bank deposits and capitalization as of December 31, 2019, as follows:

- on an actual basis;
- on a pro forma basis to reflect:
  - the automatic conversion of all outstanding shares of our preferred stock into 3,715,222 shares of common stock upon the closing of this offering; and
  - the filing and effectiveness of our restated certificate of incorporation, which will occur upon the closing of this offering.
- on a pro forma as adjusted basis to give further effect to our issuance and sale of 3,333,334 shares of common stock in this offering at an assumed initial public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us.

Our capitalization following the closing of this offering will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing. You should read this information in conjunction with our consolidated financial statements and the related notes appearing at the end of this prospectus and the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section and other financial information contained in this prospectus.

	As of December 31, 2019 (in thousands, except share data)		
	Actual	Pro Forma	Pro Forma As Adjusted(1)
Cash and cash equivalents and short-term restricted bank deposits	$ 16,808	$ 16,808	$ 61,173
Long-term debt, net of current portion	299	299	299
Convertible preferred stock (Series A and Series B), par value $0.01 per share; 8,200,000 shares authorized, 3,715,222 shares issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted	53,373	—	—
Stockholders' (deficit) equity			
Preferred stock, $0.01 par value; no shares authorized, issued or outstanding, actual; 10,000,000 shares authorized and no shares issued or outstanding, pro forma and pro forma as adjusted	—	—	—
Common stock, par value $0.01 per share; 20,000,000 shares authorized, actual; 5,064,722 shares issued and 4,998,875 shares outstanding, actual; 200,000,000 shares authorized, pro forma and pro forma as adjusted; 8,779,944 shares issued and 8,714,096 shares outstanding, pro forma; 12,113,778 shares issued and outstanding, pro forma as adjusted	51	88	121
Additional paid-in capital	1,770	55,106	99,437
Accumulated deficit	(40,741)	(40,741)	(40,741)
Total stockholders' (deficit) equity	(38,920)	14,453	58,818
Total capitalization	$ 14,453	$ 14,453	$ 58,818

(1) Each $1.00 increase (decrease) in the assumed initial public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the pro

forma as adjusted amount of each of cash and cash equivalents and short-term restricted bank deposits, additional paid-in capital, total stockholders' deficit and total capitalization by $3.1 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us. Similarly, each increase (decrease) of 1.0 million shares in the number of shares offered by us at the assumed initial public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash and cash equivalents and short-term restricted bank deposits, additional paid-in capital, total stockholders' deficit and total capitalization by approximately $14.0 million.

The number of shares in the table above does not include:

- 608,218 shares of common stock issuable upon exercise of stock options outstanding, under our 2017 Plan, as of December 31, 2019, at a weighted-average exercise price of $5.14 per share;
- 52,750 shares of our common stock issuable upon the exercise of stock options granted after December 31, 2019 pursuant to our 2017 Plan;
- 47,299 additional shares of common stock issuable upon the exercise of stock options to be granted in connection with this offering under the 2017 Plan, to certain of our executive officers and employees, at an exercise price per share equal to the initial public offering price in this offering;
- 58,651 additional shares of common stock issued pursuant to restricted stock grants to be granted in connection with the offering under the 2017 Plan, to certain of our executive officers and employees, at a per share price equal to the initial public offering price in this offering; and
- 1,327,825 shares of our common stock reserved for future issuance under the Amended 2017 Plan, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under the Amended 2017 Plan.

DILUTION

If you invest in our common stock in this offering, your ownership interest will be immediately diluted to the extent of the difference between the initial public offering price per share of our common stock and the pro forma as adjusted net tangible book value per share of our common stock after this offering.

As of December 31, 2019, we had a historical net tangible book value of $(39.6) million, or $(7.92) per share of common stock. Our historical net tangible book value per share represents total tangible assets less total liabilities and preferred stock, divided by the number of shares of our common stock outstanding as of December 31, 2019.

Our pro forma net tangible book value as of December 31, 2019 was $13.8 million, or $1.58 per share. Pro forma net tangible book value represents the amount of our total tangible assets less total liabilities, after giving effect to the automatic conversion of all shares of our preferred stock outstanding as of December 31, 2019 into an aggregate of 3,715,222 shares of our common stock in connection with this offering. Pro forma net tangible book value per share represents our pro forma net tangible book value divided by the total number of shares outstanding as of December 31, 2019, after giving effect to the pro forma adjustment described above.

After giving further effect to receipt of the net proceeds from our issuance and sale of 3,333,334 shares of common stock in this offering at an assumed initial public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of December 31, 2019 would have been approximately $58.8 million, or approximately $4.88 per share. This amount represents an immediate increase in pro forma net tangible book value of $3.30 per share to our existing stockholders and an immediate dilution of approximately $10.12 per share to new investors participating in this offering. We determine dilution by subtracting the pro forma as adjusted net tangible book value per share after this offering from the amount of cash that a new investor paid for a share of common stock. The following table illustrates this dilution:

Assumed initial public offering price per share		$ 15.00
Historical net tangible book value per share as of December 31, 2019	$ (7.92)	
Increase (decrease) per share attributable to the conversion of our preferred stock	9.50	
Pro forma net tangible book value (deficit) per share as of December 31, 2019	1.58	
Increase per share attributable to this offering	$ 3.30	
Pro forma as adjusted net tangible book value per share after this offering		$ 4.88
Dilution per share to new investors in this offering		$ 10.12

The dilution information discussed above is illustrative only and will change based on the actual initial public offering price and other terms of this offering determined at pricing. Each $1.00 increase (decrease) in the assumed initial public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted net tangible book value per share after this offering by $0.26 per share, and dilution to new investors by $0.74 per share, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us. Each increase of 1.0 million shares in the number of shares offered by us would increase our pro forma as adjusted net tangible book value per share after this offering by $0.69 per share and decrease the dilution per share to new investors by $0.69 per share and each (decrease) of 1.0 million shares in the number of shares offered by us would (decrease) our pro forma as adjusted net tangible book value per share after this offering by $0.82 per share and (increase) the dilution per share to new investors by $0.82 per share, assuming that the assumed initial public offering price remains the same, and after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us.

If the underwriters exercise in full their option to purchase additional shares of our common stock, the pro forma as adjusted net tangible book value after this offering would be $5.24 per share, the increase in pro forma as adjusted net tangible book value per share would be $0.36 per share and the dilution per share to new investors would be $9.76 per share, in each case assuming an initial public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us.

The following table summarizes on the pro forma as adjusted basis described above, as of December 31, 2019, the differences between the number of shares purchased from us, the total consideration paid to us in cash and the average price per share that existing stockholders and new investors paid. The calculation below is based on an assumed initial public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, before deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us.

	Shares Purchased		Total Consideration		Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders	8,714,097	72.0%	$ 55,194,000	52.0%	$ 6.33
New investors	3,333,334	28.0	50,000,010	48.0	15.00
Total	12,047,431	100.0%	$ 105,194,010	100.0%	$ 8.73

A $1.00 increase or decrease in the assumed initial public offering price of $15.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease the total consideration paid by new investors by $3.3 million and, in the case of an increase, would increase the percentage of total consideration paid by new investors by 1.6 percentage points and, in the case of a decrease, would decrease the percentage of total consideration paid by new investors by 1.7 percentage points, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same. An increase or decrease of 1.0 million shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase or decrease the total consideration paid by new investors by $15.0 million and, in the case of an increase, would increase the percentage of the total consideration paid by new investors by 7 percentage points and, in the case of a decrease, would decrease the percentage of the total consideration paid by new investors by 9.0 percentage points, assuming no change in the assumed initial public offering price.

The foregoing tables and calculations are based on the number of shares of our common stock outstanding as of December 31, 2019, after giving effect to the automatic conversion of all outstanding shares of our preferred stock into common stock in connection with this offering, and exclude:

- 608,218 shares of common stock issuable upon exercise of stock options outstanding under our 2017 Plan as of December 31, 2019, at a weighted-average exercise price of $5.14 per share;
- 52,750 shares of our common stock issuable upon the exercise of stock options granted after December 31, 2019 pursuant to our 2017 Plan;
- 47,299 additional shares of common stock issuable upon the exercise of stock options to be granted in connection with this offering under the 2017 Plan, to certain of our executive officers and employees, at an exercise price per share equal to the initial public offering price in this offering;
- 58,651 additional shares of common stock issued pursuant to restricted stock grants to be granted in connection with the offering under the 2017 Plan, to certain of our executive officers and employees, at a per share price equal to the initial public offering price in this offering; and
- 1,327,825 shares of our common stock reserved for future issuance under the Amended 2017 Plan, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under the Amended 2017 Plan.

To the extent any of these outstanding options is exercised, there will be further dilution to new investors. If all of such outstanding options had been exercised as of December 31, 2019, the pro forma as adjusted net tangible book value per share after this offering would be $4.94, and total dilution per share to new investors would be $10.06.

If the underwriters exercise in full their option to purchase additional shares of our common stock:

- the percentage of shares of common stock held by existing stockholders will decrease to approximately 69.0% of the total number of shares of our common stock outstanding after this offering; and
- the number of shares of common stock held by new investors will increase to 3,833,334, or approximately 31.0% of the total number of shares of our common stock outstanding after this offering.

SELECTED CONSOLIDATED FINANCIAL DATA

You should read the following selected consolidated financial data together with our consolidated financial statements and the related notes appearing at the end of this prospectus and the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of this prospectus. The following tables set forth our summary consolidated financial data for the period indicated. We have derived the consolidated statements of operations data for the years ended December 31, 2018 and 2019 and the consolidated balance sheet data as of December 31, 2019 from our audited consolidated financial statements included elsewhere in this prospectus. Our historical results are not necessarily indicative of the results that should be expected for any future period.

	Year Ended December 31,	
	2018	2019
	(in thousands, except share and per share data)	
Consolidated Statement of Operations and Comprehensive Loss Data:		
Revenue from license agreement	$ —	$ 2,334
Cost of revenue	—	(1,285)
Gross profit	—	1,049
Operating expenses:		
Research and development	5,741	14,424
General and administrative	3,294	4,336
Operating loss	(9,035)	(17,711)
Other non-operating income (expense):		
Financial income, net	448	225
Loss before income tax	(8,587)	(17,486)
Taxes on income	(286)	(306)
Net loss attributable to common stockholders	$ (8,873)	$ (17,792)
Net loss attributable to common stockholders, basic(1)	$ (8,873)	$ (17,792)
Net loss per share attributable to common stockholders, basic(1)	$ (1.80)	$ (3.57)
Weighted average common stock outstanding, basic(1)	4,935,897	4,979,606
Pro forma net loss per share attributable to common stockholders, basic and diluted(1)	$ (1.31)	$ (2.07)
Pro forma weighted average common stock outstanding, basic and diluted(1)	6,771,411	8,580,349

(1) See Note 2 to our consolidated financial statements included elsewhere in this prospectus for an explanation of the method used to calculate the historical and pro forma basic and diluted net loss per share of common stock and the weighted average number of shares used in the computation of the per share amounts.

	Year Ended December 31,	
	2018	2019
	(in thousands)	
Consolidated Balance Sheet Data:		
Cash and cash equivalents and short-term restricted bank deposits	$ 26,264	$ 16,808
Total assets	27,125	20,054
Additional paid-in capital	1,040	1,770
Accumulated deficit	(22,949)	(40,741)
Total stockholders' (deficit) equity	$ (21,859)	$ (38,920)

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with the "Selected Consolidated Financial Data" section of this prospectus and our consolidated financial statements and the related notes included elsewhere in this prospectus. Some of the information contained in this discussion and analysis or set forth elsewhere in this prospectus, including information with respect to our plans and strategy for our business and related financing, includes forward-looking statements that involve risks and uncertainties. As a result of many factors, including those factors set forth in the "Risk Factors" section of this prospectus, our actual results could differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Overview

We are a clinical-stage oncology company focused on developing and commercializing small molecule therapeutics for patients suffering from rare and aggressive cancers, primarily in genetically defined patient populations. Our differentiated development approach is predicated on identifying and addressing tumorigenic drivers of cancer, through a combination of our bioinformatics platform and next-generation sequencing to deliver targeted therapies to underserved patient populations. Our current portfolio of product candidates, AL101 and AL102, targets the aberrant activation of the Notch pathway with gamma secretase inhibitors. Gamma secretase is the enzyme responsible for Notch activation and, when inhibited, turns off the Notch pathway activation. Aberrant activation of the Notch pathway has long been implicated in multiple solid tumor and hematological cancers and has often been associated with more aggressive cancers. In cancers, Notch is known to serve as a critical facilitator in processes such as cellular proliferation, survival, migration, invasion, drug resistance and metastatic spread, all of which contribute to a poorer patient prognosis. AL101 and AL102 are designed to address the underlying key drivers of tumor growth, and our initial Phase 2 clinical data of AL101 suggest that our approach may address the shortcomings of existing treatment options. We believe that our novel product candidates, if approved, have the potential to transform treatment outcomes for patients suffering from rare and aggressive cancers.

Our lead product candidate, AL101, is being developed as a potent, selective, injectable small molecule gamma secretase inhibitor. We obtained an exclusive, worldwide license to develop and commercialize AL101 from Bristol-Myers Squibb Company, or BMS, in November 2017. BMS evaluated AL101 in three Phase 1 studies in more than 200 subjects with various cancers who had not been prospectively characterized for Notch activation. While these Phase 1 studies did not report statistically significant overall results, clinical activity was observed across these studies in cancers in which Notch has been implicated as a tumorigenic driver.

We were incorporated as a Delaware corporation on November 14, 2017, and our headquarters is located in Rehovot, Israel. Our operations to date have been limited to organizing and staffing our company, business planning, raising capital and conducting research and development activities for our product candidates. To date, we have funded our operations primarily through private placements of common stock and convertible preferred stock. From our inception through December 31, 2019, we have raised an aggregate of $46.3 million to fund our operations, primarily consisting of proceeds from sales of our convertible preferred stock.

We have incurred significant net operating losses in every year since our inception and expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. Our net losses may fluctuate significantly from quarter to quarter and year to year and could be substantial. Our net losses were $8.9 million and $17.8 million for the years ended December 31, 2018 and 2019, respectively. As of December 31, 2019, we had an accumulated deficit of $40.7 million. We anticipate that our expenses will increase significantly as we:

- advance our Phase 2 ACCURACY trial of AL101 for the treatment of recurrent/metastatic adenoid cystic carcinoma, or R/M ACC;

- commence our Phase 2 clinical trials of AL101 for the treatment of R/M TNBC and R/R T-ALL, initiate clinical trials of AL102 for the treatment of desmoid tumors, or obtain and conduct clinical trials for any other product candidates;
- assuming successful completion of our Phase 2 ACCURACY trial of AL101 for the treatment of R/M ACC, are required by the U.S. Food and Drug Administration, or FDA, to complete Phase 3 clinical trials to support submission of a New Drug Application, or NDA, of AL101 for the treatment of R/M ACC;
- establish a sales, marketing and distribution infrastructure to commercialize AL101 and/or AL102, if approved, and for any other product candidates for which we may obtain marketing approval;
- collaborate with leading diagnostic companies to develop diagnostic tests for identifying patients with Notch-activating mutations;
- maintain, expand, protect and enforce our intellectual property portfolio;
- hire additional staff, including clinical, scientific, technical, regulatory operational, financial, commercial and personnel, to execute our business plan; and
- add clinical, scientific, operational, financial and management information systems and personnel to support our product development and potential future commercialization efforts, and to enable us to operate as a public company.

We do not expect to generate revenue from product sales unless and until we successfully complete clinical development and obtain regulatory approval for a product candidate. Additionally, we currently use contract research organizations, or CROs, to carry out our clinical development activities. Furthermore, commencing upon the closing of this offering, we will incur additional costs associated with operating as a public company. As a result, we will need substantial additional funding to support our continuing operations and pursue our growth strategy. Until such time as we can generate significant revenue from product sales, if ever, we expect to fund our operations through public or equity offerings or debt financings, marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements or other sources. We may, however, be unable to raise additional funds or enter into such other arrangements when needed on favorable terms or at all. Our failure to raise capital or enter into such other arrangements as and when needed would have a negative impact on our financial condition and our ability to develop our current or any future product candidates.

Because of the numerous risks and uncertainties associated with therapeutics product development, we are unable to predict accurately the timing or amount of increased expenses or when or if we will be able to achieve or maintain profitability. Even if we are able to generate revenue from product sales, we may not become profitable. If we fail to become profitable or are unable to sustain profitability on a continuing basis, then we may be unable to continue our operations at planned levels and be forced to reduce or terminate our operations.

As of December 31, 2019, we had cash and cash equivalents and short-term restricted bank deposits totaling $16.8 million. We believe that the net proceeds from this offering, together with our existing cash and cash equivalents and short-term restricted bank deposits, will enable us to fund our operating expenses and capital expenditure requirements into the second half of 2022. We have based these estimates on assumptions that may prove to be imprecise or incorrect, and we may use our available capital resources sooner than we currently expect. See “—Liquidity and Capital Resources.” Because of the numerous risks and uncertainties associated with the development of our current and any future product candidates, our platform and technology and because the extent to which we may enter into collaborations with third parties for development of any of our product candidates is unknown, we are unable to estimate the amounts of increased capital outlays and operating expenses associated with completing the research and development of our product candidates.

If we raise additional funds through marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements with third parties, we may be required to relinquish valuable rights

to our technologies, intellectual property, future revenue streams or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate product candidate development programs or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

In its report on our financial statements for the year ended December 31, 2018 and 2019, our independent registered public accounting firm included an explanatory paragraph stating that our recurring losses from operations since inception and required additional funding to finance our operations raise substantial doubt about our ability to continue as a going concern. See "Risk Factors—Risks Related to Our Financial Position and Need for Additional Capital—Our recurring losses from operations could continue to raise substantial doubt regarding our ability to continue as a going concern. Our ability to continue as a going concern requires that we obtain sufficient funding to finance our operations."

License Agreements

Bristol-Myers Squibb

In November 2017, we entered into an exclusive worldwide license agreement with Bristol-Myers Squibb Company, or BMS, for AL101 and AL102, each a small molecule gamma secretase inhibitor in development for the treatment of cancers. Under the terms of the license agreement, we have licensed the exclusive worldwide development and commercialization rights for AL101 (previously known as BMS-906024) and AL102 (previously known as BMS-986115).

We are responsible for all future development and commercialization of AL101 and AL102. In consideration for the rights granted under the agreement, we paid BMS a payment of $6 million and issued to BMS 1,125,929 shares of Series A preferred stock valued at approximately $7.3 million. We are obligated to pay BMS up to approximately $142 million in the aggregate upon the achievement of certain clinical development or regulatory milestones and up to $50 million in the aggregate upon the achievement of certain commercial milestones by each product containing the licensed BMS compounds. In addition, we are obligated to pay BMS tiered royalties ranging from a high single-digit to a low teen percentage on worldwide net sales of all products containing the licensed BMS compounds. For more information regarding this agreement, please see "Business—License Agreements."

Novartis

In December 2018, we entered into an evaluation, option and license agreement, or the Novartis Agreement, with Novartis International Pharmaceutical Limited, or Novartis, pursuant to which we granted Novartis an exclusive option to obtain an exclusive license to research, develop, commercialize and manufacture AL102 for the treatment of multiple myeloma.

We will continue to supply Novartis quantities of AL102, products containing AL102 and certain other materials for purposes of conducting evaluation studies not comprising human clinical trials during the option period, together with our know-how as may reasonably be necessary in order for Novartis to conduct such evaluation studies. Novartis has agreed to reimburse us for all such expenses.

At any time during the option term, Novartis may exercise its option by payment of a low eight figure option exercise fee. If Novartis exercises its option, it will be obligated to pay us up to an additional $245 million upon the achievement of certain clinical development and commercial milestones. In addition, Novartis is obligated to pay us tiered royalties at percentages ranging from a mid-single digit to a low double-digit percentage on worldwide net sales of products licensed under the agreement. For more information regarding this agreement, please see "Business—License Agreements."

Components of Our Results of Operations

Revenue Recognition

We recognize revenue in accordance with ASC Topic 606, Revenue from Contracts with Customers, which applies to all contracts with customers. Under Topic 606, an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration that the entity expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that an entity determines are within the scope of Topic 606, the entity performs the following five steps:

(i) identify the contract(s) with a customer;

(ii) identify the performance obligations in the contract;

(iii) determine the transaction price;

(iv) allocate the transaction price to the performance obligations in the contract; and

(v) recognize revenue when (or as) the entity satisfies a performance obligation.

At contract inception, once the contract is determined to be within the scope of Topic 606, we assess the goods or services promised within the contract and determine those that are performance obligations and assess whether each promised good or service is distinct.

Customer option to acquire additional goods or services gives rise to a performance obligation in the contract only if the option provides a material right to the customer that it would not receive without entering into that contract.

In a contract with multiple performance obligations, we must develop estimates and assumptions that require judgment to determine the underlying stand-alone selling price for each performance obligation, which determines how the transaction price is allocated among the performance obligations.

We evaluate each performance obligation to determine if it can be satisfied at a point in time or over time.

Revenue is recognized when control of the promised goods or services is transferred to the customers, in an amount that reflects the consideration we expect to be entitled to receive in exchange for those goods or services.

In December 2018, we entered into the Novartis Agreement for which we paid for its research and development costs up to $4.3 million. For additional details regarding the Novartis Agreement, refer to Note 5 of our consolidated financial statements included elsewhere in this prospectus.

We concluded that there is one distinct performance obligation under the Novartis Agreement: Research and development services, an obligation which is satisfied over time.

Revenue associated with the research and development services in the amount of $2.3 million was recognized in 2019.

We concluded that progress towards completion of the research and development performance obligation related to the Novartis Agreement is best measured in an amount proportional to the expenses incurred from the total estimated expenses. We periodically review and update our estimates, when appropriate, which may adjust revenue recognized for the period. The transaction price to be recognized as revenue under the Novartis Agreement consists of the reimbursable research and development costs.

Operating Expenses

Our operating expenses since inception have consisted solely of research and development expenses and general and administrative expenses.

Research and Development Expenses

Research and development expenses consist primarily of costs incurred for our research activities, including the development of and pursuit of regulatory approval of our lead product candidates, AL101 and AL102, which include:

- employee-related expenses, including salaries, benefits and stock-based compensation expense for personnel engaged in research and development functions;
- expenses incurred in connection with the preclinical and clinical development of our product candidates, including under agreements with CROs, investigative sites and consultants;
- costs of manufacturing our product candidates for use in our preclinical studies and clinical trials, as well as manufacturers that provide components of our product candidates for use in our preclinical and current and potential future clinical trials;
- costs associated with our bioinformatics platform;
- consulting and professional fees related to research and development activities;
- costs related to compliance with clinical regulatory requirements; and
- facility costs and other allocated expenses, which include expenses for rent and maintenance of our facility, utilities, depreciation and other supplies.

We expense research and development costs as incurred. Our external research and development expenses consist primarily of costs such as fees paid to consultants, contractors and CROs in connection with our preclinical and clinical development activities. We typically use our employee and infrastructure resources across our development programs and we do not allocate personnel costs and other internal costs to specific product candidates or development programs with the exception of the costs to manufacture our product candidates.

The following table summarizes our research and development expenses by product candidate or development program for the years ended December 31, 2018 and 2019:

	Years Ended December 31,	
	2018	2019
Program-specific costs:		
AL101		
ACC	$ 4,442	$ 11,518
TNBC	434	1,107
General Expenses	707	1,580
AL102		
General Expenses	158	219
Total research and development expenses	$ 5,741	$ 14,424

Research and development activities are central to our business model. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We expect that our research and development expenses will continue to increase for the foreseeable future as we initiate additional clinical trials, including Phase 2 clinical trials of AL101 for the treatment of R/M TNBC and R/R T-ALL and of AL102 for the treatment of desmoid tumors, scale our manufacturing processes, continue to develop additional product candidates and hire additional clinical and scientific personnel.

The successful development of AL101, AL102 and any future product candidate is highly uncertain. Accordingly, at this time, we cannot reasonably estimate or know the nature, timing and costs of the efforts that

will be necessary to complete the development of these product candidates. We are also unable to predict when, if ever, we will generate revenue and material net cash inflows from the commercialization and sale of any of our product candidates for which we may obtain marketing approval. We may never succeed in achieving regulatory approval for any of our product candidates. The duration, costs and timing of preclinical studies, clinical trials and development of our product candidates will depend on a variety of factors, including:

- successful completion of clinical trials with adequate safety, tolerability and efficacy profiles for AL101, AL102 and any potential future product candidates that are satisfactory to the FDA or any comparable foreign regulatory authority;
- approval of INDs for AL101 and AL102 and any potential future product candidate to commence planned or future clinical trials in the United States or foreign countries;
- significant and changing government regulation and regulatory guidance;
- timing and receipt of marketing approvals from applicable regulatory authorities;
- establishing arrangements with contract manufacturing organizations, or CMOs, for third-party clinical and commercial manufacturing to obtain sufficient supply of our product candidates;
- obtaining, maintaining, protecting and enforcing patent and other intellectual property rights and regulatory exclusivity for our product candidates;
- commercializing the product candidates, if and when approved, whether alone or in collaboration with other organizations;
- acceptance of the product, if and when approved, by patients, the medical community and third-party payors;
- competition with other therapies; and
- maintenance of a continued acceptable safety profile of the products following approval.

A change in the outcome of any of these variables with respect to the development, manufacture or commercialization enabling activities of any of our product candidates would significantly change the costs, timing and viability associated with the development of that product candidate. For example, if the FDA or another regulatory authority were to require us to conduct clinical trials beyond those that we anticipate will be required for the completion of clinical development of a product candidate, or if we experience significant delays in our clinical trials due to patient enrollment or other reasons, we would be required to expend significant additional financial resources and time on the completion of clinical development.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries and other related costs, including stock-based compensation, for personnel in executive, finance and administrative functions. General and administrative expenses also include direct and allocated facility-related costs as well as professional fees for legal, patent, consulting, investor and public relations, accounting, auditing, tax services and insurance costs.

We expect that our general and administrative expenses will increase in the future to support continued research and development activities and potential commercialization of our product candidates. These increases will likely include increased costs related to the hiring of additional personnel and fees to outside consultants, attorneys and accountants, among other expenses. Additionally, we expect to incur increased expenses associated with being a public company, including the costs of additional personnel, accounting, audit, legal, regulatory and tax-related services associated with maintaining compliance with exchange listing and Securities and Exchange Commission, or SEC, requirements, director and officer insurance costs, and investor and public relations costs.

Financial Income, Net

Financial income, net primarily consists of non-cash financial expense incurred in connection with the measurement of derivative instrument in connection with the anti-dilution right granted to BMS, and interest income earned on our cash and cash equivalents and short-term restricted bank deposits.

Critical Accounting Policies and Use of Estimates

Our management's discussion and analysis of financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States, or GAAP. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities and expenses and the disclosure of contingent assets and liabilities in our consolidated financial statements during the reporting periods. These items are monitored and analyzed by us for changes in facts and circumstances, and material changes in these estimates could occur in the future. We base our estimates on historical experience, known trends and events, and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Changes in estimates are reflected in reported results for the period in which they become known. Actual results may differ materially from these estimates under different assumptions or conditions.

While our significant accounting policies are described in more detail in the notes to our consolidated financial statements appearing elsewhere in this prospectus, we believe the following accounting policies used in the preparation of our consolidated financial statements require the most significant judgments and estimates.

Accrued Research and Development Expenses

As part of the process of preparing our consolidated financial statements, we are required to estimate our accrued research and development expenses. This process involves reviewing purchase orders and open contracts, communicating with our personnel to identify services that have been performed on our behalf and estimating the level of service performed and the associated cost incurred for the services when we have not yet been invoiced or otherwise notified of the actual cost. The majority of our service providers invoice us monthly in arrears for services performed, on a pre-determined schedule or when contractual milestones are met; however, some require advance payments. We make estimates of our accrued expenses as of each balance sheet date in our consolidated financial statements based on facts and circumstances known to us at that time. We periodically confirm the accuracy of our estimates with the service providers and make adjustments if necessary. The significant estimates in our accrued research and development expenses include the following costs incurred for services in connection with research and development activities for which we have not yet been invoiced:

- vendors in connection with clinical development activities;
- vendors in connection with the testing of clinical trial materials;
- CROs in connection with clinical trials; and
- investigative sites in connection with clinical trials.

We contract with CROs to conduct clinical and other research and development services on our behalf. We base our expenses related to CROs on our estimates of the services received and efforts expended pursuant to quotes and contracts with them. The financial terms of these agreements are subject to negotiation, vary from contract to contract and may result in uneven payment flows. There may be instances in which payments made to our CROs will exceed the level of services provided and result in a prepayment of the research and development expense. In accruing service fees, we estimate the time period over which services will be performed and the level of effort to be expended in each period. If the actual timing of the performance of services or the level of effort varies from our estimate, we adjust the accrual or amount of prepaid expense accordingly. Non-refundable

advance payments for goods and services that will be used in future research and development activities are expensed when the activity has been performed or when the goods have been received rather than when the payment is made.

Although we do not expect our estimates to be materially different from amounts actually incurred, our understanding of the status and timing of services performed relative to the actual status and timing of services performed may vary and may result in reporting amounts that are too high or too low in any particular period. To date, there have not been any material adjustments to our prior estimates of accrued research and development expenses.

Stock-Based Compensation

We measure stock options and other stock-based awards granted to employees, directors, consultants or advisors of the company or its affiliates based on their fair value on the date of the grant and recognize compensation expense of those awards, over the requisite service period, which is generally the vesting period of the respective award. We apply the accelerated method of expense recognition to all awards with only service-based vesting conditions.

For stock-based awards granted to non-employees, compensation expense is recognized over the period during which services are rendered by such non-employees until completed.

We estimate the fair value of each stock option grant on the date of grant using the Black-Scholes option-pricing model, which uses as inputs the fair value of our common stock and assumptions we make for the volatility of our common stock, the expected term of our stock options, the risk-free interest rate for a period that approximates the expected term of our stock options and our expected dividend yield.

Determination of Fair Value of Common Stock

As a private company with no active public market for our common stock, our board of directors has historically determined the fair value of our common stock on each date of grant, with input from management. Our board of directors periodically determined the estimated per share fair value of our common stock at various dates using valuations performed by third parties. All options to purchase shares of our common stock are intended to be granted with an exercise price per share no less than the fair value per share of our common stock underlying those options on the date of grant, based on the information known to us on the date of grant. Our determinations of the fair value of our common stock were made using methodologies, approaches and assumptions consistent with the American Institute of Certified Public Accountants Audit and Accounting Practice Aid Series: *Valuation of Privately Held Company Equity Securities Issued as Compensation*, or the Practice Guide. Once a public trading market for our common stock has been established in connection with the completion of this offering, it will no longer be necessary for us to estimate the fair value of our common stock in connection with our accounting for stock options.

Our board of directors considered various objective and subjective factors, along with input from management, to determine the fair value of our common stock, including:

- the lack of an active public market for our common stock and convertible preferred stock;
- the prices at which we sold shares of our convertible preferred stock in arm's-length transactions and the superior rights, preferences and privileges of the convertible preferred stock relative to our common stock, including the liquidation preferences of our preferred stock;
- our results of operations and financial condition, including cash on hand;
- the material risks related to our business;
- our stage of development and business strategy;

- the composition of, and changes to, our management team and board of directors;
- the market performance of publicly traded companies in the life sciences and biotechnology sectors, as well as recently completed initial public offerings, or IPOs, of companies in the life sciences and biotechnology sectors; and
- the likelihood of achieving a liquidity event such as an IPO given prevailing market conditions.

Our valuations were prepared in accordance with the guidelines in the Practice Guide, which prescribes several valuation approaches for setting the value of an enterprise, such as the cost, income and market approaches, and various methodologies for allocating the value of an enterprise to its common stock. Through September 2019, we utilized the option pricing method, or OPM, and a guideline transaction method, which we believed was the most appropriate for each of the valuations of our common stock performed by our independent third-party valuation specialist. The OPM treats our security classes as call options on total equity value, and allocates our equity value across its security classes based on the rights and preferences of the securities within the capital structure under an assumed liquidation event. The OPM method is used when the range of possible future outcomes is difficult to predict and forecasts would be highly speculative. We believed this method was the most appropriate given the expectation of various potential liquidity outcomes and the difficulty of selecting appropriate enterprise values given our early stage of development, while allowing us to accurately capture the potential downside risk of our clinical-stage assets. Beginning in November 2019, for options granted after September 30, 2019, we utilized a hybrid of the OPM and Probability-Weighted Expected Return Method, or PWERM. The PWERM is a scenario based analysis that estimates the value per share based on the probability-weighted present value of expected future investment returns, considering each of the possible outcomes available to us, as well as the economic and control rights of each share class. Under this hybrid method, we considered both the initial public offering liquidity scenario and an alternative scenario in the event an initial public offering does not occur. In October 2019, we engaged a new third-party valuation firm to retrospectively estimate the value of our common stock as of certain prior dates. Share-based compensation was awarded as a result of such retrospective valuations.

There are significant judgments and estimates inherent in the determination of the fair value of our common stock. These judgments and estimates are management’s best estimates and include assumptions regarding our future operating performance, the time to completing an initial public offering or other liquidity event, the related company valuations associated with such events and the determinations of the appropriate valuation methods. If we had made different assumptions, our stock-based compensation expense, net loss and net loss per common share could have been different.

Results of Operations

Comparison of the Years Ended December 31, 2018 and 2019

The following table summarizes our results of operations for the years ended December 31, 2018 and 2019 (in thousands):

	Years Ended December 31,		
	2018	2019	% Change
Revenue from license agreement	$ —	$ 2,334	100%
Cost of revenue	—	(1,285)	100
Gross profit	—	1,049	100
Operating expenses:			
Research and development	5,741	14,424	151
General and administrative	3,294	4,336	32
Operating loss	(9,035)	(17,711)	96
Financial income, net	448	225	(50)
Loss before income tax	(8,587)	(17,486)	104
Taxes on income	(286)	(306)	7
Net loss attributable to common stockholders	$ (8,873)	$ (17,792)	101%

Research and Development Expenses

Research and development expense increased by $8.7 million from $5.7 million for the year ended December 31, 2018 to $14.4 million for the year ended December 31, 2019. The increase in research and development expense was primarily attributable to the advancement of our Phase 2 ACCURACY trial.

General and Administrative Expenses

General and administrative expense increased by $1.0 million from $3.3 million for the year ended December 31, 2018 to $4.3 million for the year ended December 31, 2019. The increase in general and administrative expenses was primarily attributable to increases in costs related to the hiring of additional personnel, salaries and related expenses and other legal and corporate expenses.

Financial Income, net

Financial income, net decreased by $0.2 million from $0.4 million for the year ended December 31, 2018 to $0.2 million for the year ended December 31, 2019.

Liquidity and Capital Resources

Sources of Liquidity

We have funded our operations from inception through December 31, 2019 primarily through gross proceeds of $46.3 million from sales of our convertible preferred stock. The following table provides information regarding our total cash and cash equivalents and short-term restricted bank deposits at December 31, 2018 and 2019 (in thousands):

	As of December 31,	
	2018	2019
Cash and cash equivalents and short-term restricted bank deposits	$ 26,264	$ 16,808

Cash Flows

The following table provides information regarding our cash flows for the years ended December 31, 2018 and 2019 (in thousands):

	Years Ended December 31,	
	2018	2019
Net cash used in operating activities	$ (6,371)	$ (14,950)
Net cash used in investing activities	(250)	(1,581)
Net cash provided by financing activities	25,420	7,075
Net increase (decrease) in cash and cash equivalents and short-term restricted bank deposits	$ 18,799	$ (9,456)

Net Cash Used in Operating Activities

The cash used in operating activities resulted primarily from expenses associated with our clinical development programs and early-stage research and general and administrative expenses.

Net cash used in operating activities was $15.0 million for the year ended December 31, 2019 compared to $6.3 million for the year ended December 31, 2018. The increase in net cash used in operating activities of $8.9 million was attributable to $8.9 million increase in net loss.

Net Cash Used in Investing Activities

Net cash used in investing activities was $1.6 million for the year ended December 31, 2019 compared to $0.3 million for the year ended December 31, 2018. The increase in net cash used for investing activities of $1.3 million was attributable a $1.0 million increase in purchases of property and equipment.

Net Cash Provided by Financing Activities

Net cash provided by financing activities was $7.1 million for the year ended December 31, 2019 compared to $25.4 million for the year ended December 31, 2018. The decrease in net cash provided by financing activities of $18.3 million was attributable to net proceeds of $22.4 million from the sale of our Series B preferred stock and net proceeds of $3.0 million from the sale of our Series A preferred stock during the year ended December 31, 2018.

Funding Requirements

We expect our expenses to increase in connection with our ongoing activities, particularly as we continue the research and development for, initiate later-stage clinical trials for, and seek marketing approval for, our product candidates. In addition, if we obtain marketing approval for any of our product candidates, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing and distribution. Furthermore, upon the closing of this offering, we expect to incur additional costs associated with operating as a public company. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, we would be forced to delay, reduce or eliminate our research and development programs or future commercialization efforts.

As of March 31, 2020, we had cash and cash equivalents and short-term restricted bank deposits of $10.1 million. We expect that the net proceeds from this offering, together with our existing cash and cash equivalents and short-term restricted bank deposits, will enable us to fund our operating expenses and capital expenditure requirements into the second half of 2022. We have based this estimate on assumptions that may prove to be

wrong, and we may use our available capital resources sooner than we currently expect. Our future capital requirements will depend on many factors, including:

- the costs of conducting future clinical trials of AL101 and AL102;
- the costs of manufacturing additional material for future clinical trials of AL101 and AL102;
- the scope, progress, results and costs of discovery, preclinical development, laboratory testing and clinical trials for other potential product candidates we may develop, if any;
- the costs, timing and outcome of regulatory review of our product candidates;
- our ability to establish and maintain collaborations, including our collaboration with ArcherDX, Inc., or ArcherDX, on favorable terms, if at all;
- the achievement of milestones or occurrence of other developments that trigger payments under any current or future license, collaboration, or other agreements;
- the costs and timing of future commercialization activities, including product sales, marketing, manufacturing and distribution, for any of our product candidates for which we receive marketing approval;
- the amount of revenue, if any, received from commercial sales of our product candidates, should any of our product candidates receive marketing approval;
- the costs of preparing, filing and prosecuting patent applications, obtaining, maintaining, protecting and enforcing our intellectual property rights and defending intellectual property-related claims;
- the severity, duration and impact of the COVID-19 pandemic, which may adversely impact our business and clinical trials;
- our headcount growth and associated costs as we expand our business operations and our research and development activities; and
- the costs of operating as a public company.

Conducting preclinical testing and clinical trials is a time-consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain marketing approval and achieve product sales. In addition, our product candidates, if approved, may not achieve commercial success. Our commercial revenues, if any, will be derived from sales of products that we do not expect to be commercially available for many years, if at all. Accordingly, we will need to continue to rely on additional financing to achieve our business objectives. Adequate additional financing may not be available to us on acceptable terms, or at all.

Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity offerings, debt financings, collaborations, strategic alliances and licensing arrangements. We do not have any committed external source of funds. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interests may be diluted, and the terms of these securities may include liquidation or other preferences that could adversely affect your rights as a common stockholder. Any debt financing, if available, may involve agreements that include restrictive covenants that limit our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends, that could adversely impact our ability to conduct our business.

If we raise funds through collaborations, strategic alliances or licensing arrangements with third parties, such as the Novartis Agreement, we may have to relinquish valuable rights to our technologies, intellectual property, future revenue streams, research programs or product candidates or to grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

In its report on our financial statements for the year ended December 31, 2019, our independent registered public accounting firm included an explanatory paragraph stating that our recurring losses from operations since inception and required additional funding to finance our operations raise substantial doubt about our ability to continue as a going concern. See “Risk Factors—Risks Related to Our Financial Position and Need for Additional Capital—Our recurring losses from operations could continue to raise substantial doubt regarding our ability to continue as a going concern. Our ability to continue as a going concern requires that we obtain sufficient funding to finance our operations.”

Contractual Obligations

The following table summarizes our significant contractual obligations as of payment due date by period at December 31, 2019:

		(in thousands)			
	Total	Less than 1 year	1 to 3 years	3 to 5 years	More than 5 years
Operating lease obligation(1)	$1,479	$ 341	$682	$456	$ —
Total	$1,479	$ 341	$682	$456	$ —

(1) Represents future minimum lease payments under our non-cancelable operating lease which expires in 2029. The minimum lease payments above do not include any related common area maintenance charges, operating expenses or real estate taxes.

We have not included any potential contingent payments upon the achievement by us of specified regulatory and commercial events, as applicable, or patent prosecution or royalty payments we may be required to make under the BMS License Agreement. We have excluded these potential payments in the contractual obligations table because the timing and likelihood of these contingent payments are not currently known and would be difficult to predict or estimate. See “Business—License Agreements.”

We enter into agreements in the normal course of business with CROs for clinical trials, third-party manufacturers for clinical supply manufacturing, professional consultants for expert advice and other vendors for other services for operating purposes. We have not included these payments in the table of contractual obligations above since the contracts do not contain any minimum purchase commitments and are cancelable at any time by us, generally upon 30 days prior written notice and therefore we believe that our non-cancelable obligations under these agreements are not material.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined under applicable SEC rules.

Quantitative and Qualitative Disclosures About Market Risk

We are exposed to market risk related to changes in interest rates. As of December 31, 2018 and 2019, our cash equivalents consisted of interest-bearing checking accounts. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates. Due to the short-term nature and the low-risk profile of our interest-bearing accounts, an immediate 10% change in interest rates would not have a material effect on the fair market value of our cash and cash equivalents and short-term restricted bank deposits or on our financial position or results of operations. We are not currently exposed to significant market risk related to changes in foreign currency exchange rates; however, we have contracted with and may continue to contract with foreign vendors located in Europe and Israel. Our operations may be subject to fluctuations in foreign currency exchange rates in the future.

Inflation generally affects us by increasing our clinical trial costs. We do not believe that inflation had a material effect on our business, financial condition or results of operations during the years ended December 31, 2018 and 2019.

Emerging Growth Company Status

The Jumpstart Our Business Startups Act of 2012, or the JOBS Act, permits an "emerging growth company" such as us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies until those standards would otherwise apply to private companies. We have elected to take advantage of this extended period.

We are in the process of evaluating the benefits of relying on other exemptions and reduced reporting requirements under the JOBS Act. Subject to certain conditions, as an emerging growth company, or EGC, we intend to rely on certain of these exemptions, including exemptions from the requirement to provide an auditor's attestation report on our system of internal controls over financial reporting pursuant to Section 404(b) of the Sarbanes-Oxley Act and from any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements, known as the auditor discussion and analysis.

BUSINESS

Overview

We are a clinical-stage oncology company focused on developing and commercializing small molecule therapeutics for patients suffering from rare and aggressive cancers, primarily in genetically defined patient populations. Our differentiated development approach is predicated on identifying and addressing tumorigenic drivers of cancer, through a combination of our bioinformatics platform and next-generation sequencing to deliver targeted therapies to underserved patient populations. Our current portfolio of product candidates, AL101 and AL102, targets the aberrant activation of the Notch pathway with gamma secretase inhibitors. Gamma secretase is the enzyme responsible for Notch activation and, when inhibited, turns off the Notch pathway activation. Aberrant activation of the Notch pathway has long been implicated in multiple solid tumor and hematological cancers and has often been associated with more aggressive cancers. In cancers, Notch is known to serve as a critical facilitator in processes such as cellular proliferation, survival, migration, invasion, drug resistance and metastatic spread, all of which contribute to a poorer patient prognosis. AL101 and AL102 are designed to address the underlying key drivers of tumor growth, and our initial Phase 2 clinical data of AL101 suggest that our approach may address the shortcomings of existing treatment options. We believe that our novel product candidates, if approved, have the potential to transform treatment outcomes for patients suffering from rare and aggressive cancers.

Our lead product candidate, AL101, is being developed as a potent, selective, injectable small molecule gamma secretase inhibitor, or GSI. We obtained an exclusive, worldwide license to develop and commercialize AL101 from Bristol-Myers Squibb Company, or BMS, in November 2017. BMS evaluated AL101 in three Phase 1 studies in more than 200 subjects with various cancers who had not been prospectively characterized for Notch activation, and to whom we refer to as unselected subjects. While these Phase 1 studies did not report statistically significant overall results, clinical activity was observed across these studies in cancers in which Notch has been implicated as a tumorigenic driver.

We are currently evaluating AL101 as a monotherapy in an open-label Phase 2 clinical trial for the treatment of recurrent/metastatic adenoid cystic carcinoma, or R/M ACC, for patients bearing Notch-activating mutations. We refer to this trial as the ACCURACY trial. We use next-generation sequencing, or NGS, to identify patients with Notch-activating mutations, an approach that we believe will enable us to target the patient population with cancers that we believe are most likely to respond to and benefit from AL101 treatment. We chose to initially target R/M ACC based on our differentiated approach, which is comprised of: data generated in a Phase 1 study of AL101 in unselected, heavily pretreated subjects conducted by BMS, our own data generated in patient-derived xenograft models, our bioinformatics platform and our expertise in the Notch pathway.

ACC is a rare malignancy of the secretory glands, most commonly of the salivary glands. It has an annual incidence of approximately 3,400 patients in the United States, approximately 1,700 of whom are R/M ACC patients. There are currently no FDA-approved therapies for patients with R/M ACC. Based on scientific literature and our bioinformatics research, we estimate that 18% to 22% of R/M ACC patients have Notch-activating mutations. These Notch patients have a significantly worse prognosis, with estimated overall median survival rates roughly four times shorter than patients without Notch-activating mutations. According to published data from 31 Phase 2 clinical trials in ACC conducted since 2005 using a variety of treatment modalities, these treatments showed limited or no clinical activity in unselected ACC subjects. The objective response rates, or ORR, in 30 of these trials, ranged from 0% to 20%, with a 47% ORR observed in one trial conducted in China. In 15 of the 31 trials, a 0% ORR was observed. ORR includes subjects who displayed either a complete response, or CR, or a partial response, or PR.

We are currently conducting our ongoing Phase 2 ACCURACY trial for the treatment of R/M ACC in subjects with progressive disease and Notch-activating mutations. Our interim data from the ACCURACY trial is as of April 28, 2020, and include safety data from 45 subjects and efficacy data from 39 subjects as of the date of

the first radiographic scan, all of whom are in the 4mg arm of the trial. As of April 28, 2020, AL101, which was generally well tolerated with manageable side effects, showed a 69% disease control rate (total subjects who displayed either a response or stable disease), with an unconfirmed 15% ORR. A confirmed response is a response observed in two or more scans, an unconfirmed response that may potentially be confirmed is a response observed in only one scan for a patient who remains on trial and an unconfirmed response that will remain unconfirmed is a response observed in only one scan for a patient who has left the trial. This unconfirmed 15% ORR included no CRs and six PRs (two confirmed PRs, two unconfirmed PRs that may potentially be confirmed and two unconfirmed PRs that will remain unconfirmed as both subjects subsequently left the trial) and 54% of subjects displaying stable disease, or SD. If approved, we believe that AL101 has the potential to be the first FDA-approved therapy for patients with R/M ACC and address the unmet medical need of these patients. AL101 was granted Orphan Drug Designation in May 2019 for the treatment of ACC and Fast Track Designation in February 2020 for the treatment of R/M ACC.

AL101's clinical activity was also observed in two Phase 1 studies conducted by BMS in subjects with various cancers in which Notch-activating mutations are known to be a tumorigenic driver. These cancers included hematological cancers such as T-ALL and soft tissue tumors such as desmoid tumors. Clinical activity was also observed in a further BMS Phase 1 study of AL101 in combination with chemotherapy, which included heavily pretreated subjects with triple negative breast cancer, or TNBC. Our IND for AL101 for the treatment of TNBC was accepted by the FDA in April 2020. Subject to the impact of the novel coronavirus disease, or COVID-19, on our business, we intend to commence additional Phase 2 clinical trials of AL101 for the treatment of R/M TNBC in the second half of 2020 and for the treatment of relapsed or refractory T-cell acute lymphoblastic leukemia, or R/R T-ALL, in the second half of 2020.

TNBC is one of the most aggressive types of breast cancer. Breast cancer, which has an annual incidence of approximately 270,000 patients in the United States, is the leading cause of cancer death in women worldwide and the second leading cause of cancer death in women in the United States. Approximately 10% of breast cancer patients are diagnosed with TNBC, which is associated with a younger age and more advanced stage at diagnosis, increased risk of visceral metastasis and decreased survival. Approximately 37% of TNBC patients have R/M TNBC, resulting in an annual incidence of approximately 10,000 R/M TNBC patients in the United States. Based on primary literature and our bioinformatics research, we estimate that approximately 9% to 16% of R/M TNBC patients have Notch-activating gene alterations including mutations and fusions. In the Phase 1 study of AL101 in combination with chemotherapy in heavily pretreated subjects, which included 22 TNBC subjects, a CR was observed in one TNBC subject, PRs were observed in seven TNBC subjects and SD was observed in five TNBC subjects. Based on these findings and supporting data from our own patient-derived xenograft, or PDX, models, and subject to the impact of COVID-19 on our business, we intend to commence a Phase 2 clinical trial of AL101 as a monotherapy for the treatment of R/M TNBC in patients with Notch-activating mutations in the second half of 2020.

We are also developing AL101 for the treatment of T-ALL, an aggressive, rare form of T-cell specific leukemia. T-ALL has an annual incidence of approximately 1,200 patients in the United States, of which an estimated 400 patients, including pediatric patients, present for the treatment of relapsed/refractory, or R/R, T-ALL. Approximately 65% of all R/R T-ALL patients have Notch-activating mutations. In addition, there is an incremental subset of patients with Notch pathway activation who do not bear Notch-activating mutations. R/R T-ALL is characterized by chemotherapy resistance, induction failure and tendency for early relapse, as 55% of adult patients and 20% of pediatric patients will relapse following first-line therapy. In the Phase 1 study of AL101, which included 26 unselected, heavily pretreated evaluable T-ALL subjects treated with 4 mg or 6 mg dose levels, a CR was observed in two T-ALL subjects and a PR was observed in one T-ALL subject. Of the three T-ALL subjects who displayed a response, two had a confirmed Notch-activating mutation. Based on these findings and supporting data from our preclinical studies, we intend to commence a Phase 2 clinical trial of AL101 for the treatment of R/R T-ALL in the second half of 2020, subject to the impact of COVID-19 on our business.

Our second product candidate, AL102, is being developed as a potent, selective, oral GSI. We obtained an exclusive, worldwide license to develop and commercialize AL102 from BMS in November 2017. We are currently developing AL102 for the treatment of desmoid tumors, which are rare, disfiguring and often debilitating types of

soft tissue tumors. Desmoid tumors have an annual incidence of approximately 1,700 patients in the United States. There are currently no FDA-approved therapies for patients with desmoid tumors. Given the slowly progressive nature of the disease, we believe these patients will be best served by an oral therapy. BMS conducted a Phase 1 study of AL102 in 36 unselected, heavily pretreated subjects. While this Phase 1 study did not report statistically significant overall results, the study included one subject with desmoid tumors who was observed to have SD for over six months. We believe that GSIs have the potential to treat patients with desmoid tumors based on data from multiple clinical evaluations, including data from three patients with desmoid tumors evaluated in a Phase 1 study of AL101 conducted by BMS. We are leveraging these findings and, subject to the impact of COVID-19 on our business, intend to commence a Phase 2 clinical trial of AL102 for the treatment of desmoid tumors in the second half of 2020.

In addition, we are collaborating with Novartis International Pharmaceutical Limited, or Novartis, to develop AL102 for the treatment of multiple myeloma, or MM, in combination with Novartis' B-cell maturation antigen, or BCMA, targeting therapies. We granted Novartis the exclusive ability to evaluate, develop and potentially license and commercialize AL102 as a monotherapy and in combination with other therapies for the treatment of MM. Novartis conducted a preclinical study evaluating AL102 alone and in combination with Novartis' bi-specific antibody. Using a cell line model of human MM, Novartis' study showed that treatment with AL102 resulted in an approximate 20-fold increase in the levels of cell surface expression of BCMA. Furthermore, using human MM cells from donors, Novartis' study showed that AL102 enhanced BCMA-CD3 bi-specific antibody redirected t-cell cytotoxicity activity *in vitro*. We believe that the clinical activity of BCMA-targeting agents may also be enhanced in clinical trials when used in combination with a GSI such as AL102.

Our product candidates have been or are being evaluated in clinical trials at leading oncology centers across the United States, including MD Anderson Cancer Center, Memorial Sloan Kettering Cancer Center and Massachusetts General Hospital, and in centers in Canada, Israel and Europe, including Gustave Roussy in France.

The following chart summarizes our current portfolio of product candidates:

(1) Anticipated clinical milestones are subject to the impact of COVID-19 on our business.
(2) If Novartis exercises its option to license AL102 for the treatment of MM, we will be entitled to receive from Novartis an exercise fee and may be entitled to receive from Novartis certain development, regulatory and commercial milestone payments as well as tiered royalties on net sales of licensed products. For more information, please see "Business—License Agreements". Phase 1 study with bi-specific anti-BCMA is ongoing but dosing of AL102 has not yet been initiated.

Our History and Team

We were founded in November 2017 when we acquired an exclusive, worldwide license to AL101 and AL102, previously called BMS-906024 and BMS-986115, from BMS. We have assembled a team with extensive experience in building and operating clinical and commercial organizations, particularly in oncology and rare diseases. Our Chief Executive Officer, Roni Mamluk, Ph.D., has extensive experience in the biopharmaceutical industry and has led our business since its inception. Our Chief Medical Officer, Gary Gordon, M.D., Ph.D., is an oncologist with clinical research experience from John Hopkins School of Medicine and in oncology drug development roles at AbbVie, Inc. Dr. Gordon was involved in the development and commercialization plans for venetoclax, celecoxib and veliparib. Members of our management team have held leadership positions at companies that have successfully discovered, acquired, developed and commercialized therapies for a range of rare diseases and cancers, including Chiasma Inc., Adnexus Therapeutics, Inc., AbbVie Inc., Abbott Laboratories, Protalix Biotherapeutics, Inc. and Teva Pharmaceutical Industries Ltd.

We have raised $46.3 million of capital since our inception. Our shareholders include BMS, Novartis and prominent investors such as Israel Biotech Fund, aMoon Fund, Harel Insurance and Finance and SBI Investments.

Our Targeted Approach to Treating Rare Cancers

- ***Target indications in which Notch is a known tumorigenic driver***
  - The Notch pathway has long been implicated in multiple solid tumor and hematological cancers, and often has been associated with more aggressive cancers. Based on our understanding of the role of the Notch pathway, we are developing targeted therapies to address the underlying key drivers of tumor growth in patients where GSI inhibition of Notch may lead to clinical benefit.
  - We use our bioinformatics platform to analyze NGS data and identify patients in whom Notch may be a tumorigenic driver. We apply our big-data analysis capabilities to identify and confirm patients with Notch-activating mutations, who are likely sensitive to GSIs.
- ***Validate indications via PDX models***
  - After our bioinformatics analysis and prior to initiating our clinical trials, we utilize PDX mouse models that allow us to assess the GSI sensitivity of patient-derived tumors *in vivo* with Notch-activating mutations where applicable. In these models, mice are implanted with tumor tissue derived from individual patient biopsies that either do or do not have a Notch-activating mutation and we observe whether the tumor responds to treatment with our product candidates. Using these models, we are able to validate whether the tumors with Notch-activating mutations in our target indications are highly sensitive to gamma secretase, or γ-secretase, inhibition.
- ***Target indications with high unmet medical need and pursue expedited regulatory review pathways***
  - BMS previously evaluated AL101 in three Phase 1 studies in more than 200 unselected subjects with various cancers. As these studies were conducted in unselected subjects, we believe that the response rates observed in these studies were lower than those that could be achieved by prescreening patients for Notch-activating mutations. The responses observed in these studies directed us to initially investigate R/M ACC, R/M TNBC, R/R T-ALL and desmoid tumors.
  - Each indication we are currently targeting is a rare disease for which there is either no FDA-approved therapy or for which current therapies are insufficient for long-term disease control. By focusing our development efforts on these indications, we expect that smaller clinical trial sizes may be sufficient to support expedited regulatory review pathways.
- ***Expand our addressable patient population***
  - Commercially available diagnostic tests are limited in their ability to test for all potential Notch-activating mutations, as they do not cover all four Notch genes and only uncover simple mutations in

the Notch gene locus, such as point mutations, insertions, deletions and copy number variations. We entered into a collaboration agreement with ArcherDX, Inc., or ArcherDX, to co-develop diagnostic tests that test for all four Notch genes and, in addition to simple mutations, are also designed to detect gene rearrangements such as fusions, which may also result in Notch activation. We believe that these diagnostic tests, if successfully developed, have the potential to expand the addressable patient population for our product candidates.

Our Strategy

Our goal is to develop and commercialize therapies that improve treatment outcomes for patients with aggressive cancers. The key elements of our strategy are:

- ***Rapidly advance the clinical development of AL101 for the treatment of R/M ACC.*** We are currently conducting our Phase 2 ACCURACY trial of AL101 for the treatment of R/M ACC. Our interim data from the 4 mg dosing group of our clinical trial as of April 28, 2020 showed encouraging initial signs of activity. We expect to report further results from this trial in a medical conference in the second half of 2020, subject to the impact of COVID-19 on our business. AL101 was granted Orphan Drug Designation in May 2019 for the treatment of ACC and Fast Track Designation in February 2020 for the treatment of R/M ACC. We intend to leverage our substantial drug development experience to efficiently advance the development AL101. If approved, we believe that AL101 has the potential to be the first FDA-approved therapy for patients with R/M ACC. We may also seek regulatory approval of AL101 for the treatment of R/M ACC selectively in other territories.
- ***Rapidly advance the clinical development of AL101 for the treatment of R/M TNBC and R/R T-ALL.*** In parallel with R/M ACC, we are committed to developing AL101 in additional indications with a high unmet medical need and in which Notch-activating mutations are known to be a tumorigenic driver, such as TNBC and T-ALL. We intend to commence Phase 2 clinical trials of AL101 for the treatment of R/M TNBC in the second half of 2020 and for the treatment of R/R T-ALL in the second half of 2020, subject to the impact of COVID-19 on our business. We also intend to evaluate other indications in which we believe AL101 could potentially deliver substantial benefits to patients.
- ***Rapidly advance the clinical development of AL102 for the treatment of desmoid tumors.*** We intend to commence a Phase 2 clinical trial evaluating AL102 for the treatment of desmoid tumors in the second half of 2020, subject to the impact of COVID-19 on our business. There are currently no FDA-approved therapies for patients with desmoid tumors. We also intend to evaluate other indications in which we believe AL102 could potentially deliver substantial benefits to patients.
- ***Collaborate with select diagnostic developers to identify and expand our addressable patient population.*** Consistent with our targeted approach to oncology, our development strategy is based on using companion diagnostics to identify and expand patient populations with Notch-activating mutations. Commercially available diagnostic tests are limited in their ability to test for all potential Notch-activating mutations. To address this, we have entered into a collaboration agreement with ArcherDX to co-develop a suitable clinical trial assay that may be used to assist in patient selection in our future clinical trials, and that is designed to detect across all four Notch genes and a wider range of Notch gene rearrangements than what is possible with commercially available diagnostic tests today.
- ***Commercialize our product candidates, if approved, to address the unmet medical need of underserved patient populations with rare and aggressive cancers.*** We intend to commercialize our product candidates, if approved, by building our own specialized sales and marketing organization initially in the United States. We believe our target market can be addressed by a small number of dedicated marketing and medical sales specialists covering specialized oncologists treating the target patient population. We may also selectively pursue strategic collaborations with third parties to maximize the commercial potential of our product candidates, if approved.
- ***Evaluate strategic collaborations to maximize the potential of our portfolio.*** We are continuously evaluating opportunities to expand our portfolio of product candidates through in-licensing, acquisition

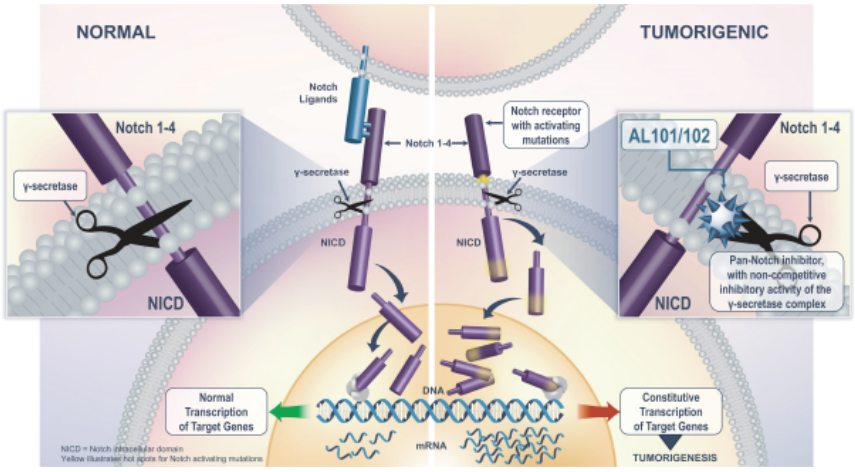
and other collaboration opportunities to jointly develop product candidates and maximize the value of our company. We have already established a collaboration with Novartis to develop AL102 in combination with Novartis' BCMA-targeting therapies for the treatment of MM and intend to assess other collaboration opportunities by leveraging our novel GSI technology.

Our Product Candidates

The Role of the Notch Pathway

The Notch pathway has long been implicated in multiple solid tumor and hematological cancers, and often has been associated with more aggressive cancers. Notch receptors serve as critical facilitators in processes such as cellular proliferation, survival, migration, invasion, drug resistance and metastatic spread, which all contribute to a poorer prognosis. Humans have four Notch receptors, known as Notch 1, 2, 3 and 4, as well as five transmembrane-bound ligands. Different forms of cancer are associated with different types of Notch mutations.

Normal and Tumorigenic Signaling of Notch



As seen on the left side of the above graphic, normal Notch receptor signaling is initiated by the binding of a ligand expressed on an adjacent cell, which triggers a conformational change, permitting cleavage of the Notch receptor by the g-secretase complex. As seen on the right side of the above graphic, this cleavage releases the Notch intracellular domain, or NICD, which then translocates to the cell nucleus, interacts with transcription complexes and promotes the transcription of downstream target genes that regulate critical cell functions. This pathway activation is terminated by the degradation of NICD. Activating mutations in the Notch receptor lead to accumulation of the NICD and hyper-activation of the pathway, resulting in excess NICD. Hyper-activation of the Notch pathway promotes cellular proliferation, survival, migration, invasion, drug resistance and metastatic spread, which are each hallmarks of cancer.

Our Potent and Selective Investigational Gamma Secretase Inhibitors

We are developing targeted therapies designed to address the underlying key drivers of tumor growth in patients where GSI inhibition of the Notch pathway may lead to clinical benefit. Our current portfolio of product

candidates targets the aberrant activation of the Notch pathway with GSIs. Gamma secretase is the enzyme responsible for Notch activation and, when inhibited, blocks the expression of Notch gene targets by blocking the final cleavage step required for Notch activation, thereby "turning off" the aberrant activation of the Notch pathway. We have designed our GSIs to selectively inhibit all four Notch receptors.

Our Bioinformatics Platform

We have developed a proprietary bioinformatics platform to analyze NGS data and identify patients in whom Notch is a tumorigenic driver. We apply our big-data analysis capabilities to identify and confirm patients with Notch-activating mutations who are likely sensitive to GSIs.

The first step in our bioinformatics process is to gather evidence from literature and identify indications in which Notch is a known tumorigenic driver. We then confirm there are a requisite number of patients with Notch alterations in a specific indication using our proprietary database to integrate genetic information from thousands of unidentified patients. We couple these methods with our analysis of PDX models, which allow us to assess the sensitivity of the tumors *in vivo* with Notch-activating mutations, for certain indications.

Our bioinformatics platform includes:

- Our Ayala Cancer Omics Research Database, or ACORD, which is used to collate NGS data and integrate Notch-activating mutations from approximately 250,000 patients with over 400 different forms of cancer and harbors approximately 27,000 unique Notch alterations. We continue to expand ACORD by gaining access to additional sources of NGS data and scientific literature. We believe that we possess the largest database of Notch-activating mutations.
- Open source and proprietary algorithms integrated into a dedicated software platform, resulting in over 20 specialized data processing pipelines. These algorithms transform DNA and RNA sequences into searchable parameters, including which cancers harbor potential Notch-activating mutations. A systems biology approach is then applied to explore pathways involved in drug resistance and inform the design of our future clinical trial designs and to consider potential treatment combinations and responses to GSI.

Our scientists continue to utilize unique capabilities in bioinformatics and functional biology to create a Notch-focused patient identification engine that we believe will result in the discovery of additional patients with currently undetected Notch-activating mutations.

Expanding Our Addressable Patient Population

In addition to the well-known scientific literature supporting Notch's tumorigenic role in various forms of cancer, we are developing our bioinformatics platform to potentially discover additional genetic alterations not currently covered in commercially available genetic screening panels. Currently available NGS tests only cover certain areas of Notch genes on the DNA level, however, we believe that there is no single test that covers all four Notch genes on the DNA and RNA level. As a result, these tests are able to detect only a subset of the patients with Notch-activating mutations. In order to develop a diagnostic test that can detect the full breadth of Notch-activating mutations on both the DNA and RNA level, we plan to collaborate with leading diagnostics companies to improve the testing capabilities for Notch-activating mutations. For example, we have a collaboration agreement with ArcherDX to co-develop a suitable clinical trial assay to assist with patient selection for our future clinical trials and detect a wider range of Notch gene rearrangements than commercially available NGS tests.

We estimate that there are up to 12,000 newly diagnosed patients annually across the United States, Europe and Japan who have Notch pathway activation in the indications that we are currently targeting.

Our Novel Approach: AL101 and AL102

Differentiated GSI for the Treatment of Rare Cancers

AL101 and AL102 are potent and selective small molecule GSIs designed to inhibit the aberrant activation of the Notch pathway. In preclinical studies and three Phase 1 studies conducted by BMS, tumor responses were observed in cancers we are initially targeting and where Notch is known to be an important tumorigenic driver. Our further investigation using PDX models provided additional evidence supporting our targeted patient population development approach.

In preclinical studies, both AL101 and AL102 inhibited all four Notch genes at low concentrations, when compared to other GSIs either currently or previously under development as illustrated in the below graphic.

Comparative Inhibitory Potency of Five GSIs in a Notch Luciferase Reporter Assay

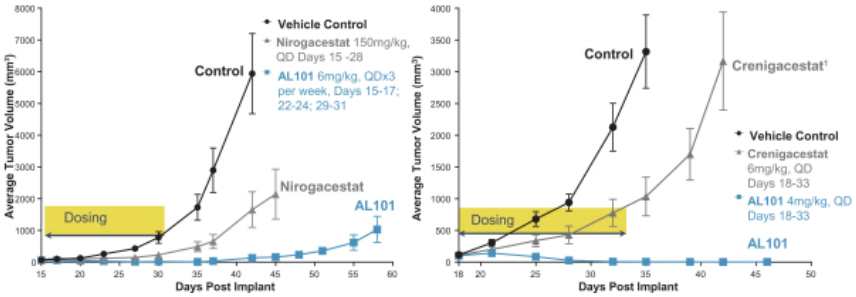
Inhibition of Constitutive Notch Signaling: IC50 (nM)[1]

	AL101 (BMS-906024)	AL102 (BMS-986115)	Niro-gacestat[2] (PF-03084014)	RO-4929097[3]	MK-0752[4]
Notch1	1.6	6.1	13	3.8	354
Notch2	0.7	2.9	15	4.4	403
Notch3	3.4	8.1	17	22	955
Notch4	2.9	4.4	16	12	874

(1) Luciferase reporter-based assay, inhibition of constitutive Notch signaling.
(2) Nirogacestat is being developed by SpringWorks Therapeutics, Inc.
(3) RO-4929097 was developed by F. Hoffmann-La Roche Ltd. and is not under active development.
(4) MK-0752 was developed by Merck & Co., Inc. and is not under active development.

The Notch cell-based transactivation assay was based on the ability of the released NICD to function as a transcription factor with other nuclear factors. Luciferase reporter activity provided a measure of the antagonism of Notch transcriptional activity. HeLa cervical cancer cells were transiently cotransfected with plasmids containing truncated Notch 1—4 receptors and a luciferase reporter vector. The cells were tested for Notch-activity in the absence or presence of GSIs at increasing concentrations. These data represent the GSI concentration inhibiting luciferase assay by 50%, or IC50. Lower concentrations correlate to more potent GSIs. As highlighted in the above graphic, AL101 and AL102 generally reached IC50 across all four Notch receptors at concentrations lower than other GSIs either currently or previously under development, which displayed the potency of AL101 and AL102 and supported the continued clinical development of these product candidates.

Effect on Tumor Growth in T-ALL Mouse Model



Tumor volume data are Mean ± SEM for 7-8 mice per treatment arm.

(1) Crenigacestat is being developed by Celgene Corporation, recently acquired by BMS.

Furthermore, as shown in the graphs above, AL101's stronger inhibition of tumor growth was observed in T-ALL mouse models when compared to other GSI molecules. We believe that AL101 and AL102, if approved, are GSIs with the potential to address the unmet medical need for patients with rare and aggressive tumors.

AL101 for the Treatment of R/M Adenoid Cystic Carcinoma

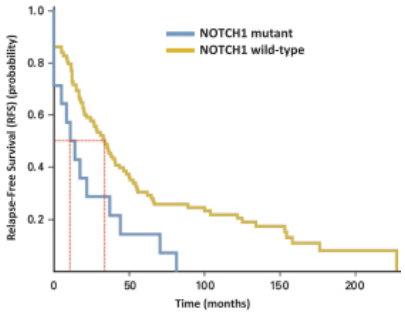
Disease Background

ACC is a rare solid tumor malignancy of secretory glands including the salivary glands. While major salivary glands are located in the mouth, minor salivary glands are scattered throughout the aerodigestive tract and are mostly concentrated in cheeks, lips, tongue, palate and floor of the mouth. ACC can also arise in other sites outside the head and neck. When presenting in the major salivary glands, ACC can cause symptoms of varying severity, including numbness, difficulty swallowing or paralysis of a facial nerve.

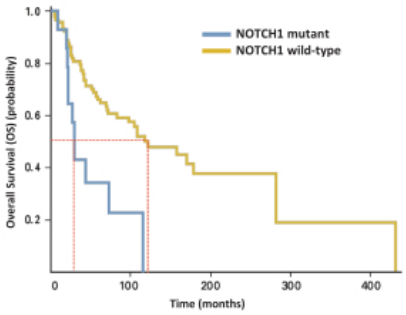
ACC is characterized by its high recurrence rate and, along with its persistent and relentless progressive course, often manifests as local recurrences and late-onset distant metastasis. ACC has an annual incidence of approximately 3,400 patients in the United States, approximately 1,700 of which are R/M ACC patients. Based on primary literature and our bioinformatics research, we estimate that 18% to 22% of R/M ACC patients have Notch-activating mutations.

Notch Is a Tumorigenic Driver in ACC and Correlates with a Distinct Pattern of Metastases and Poor Prognosis

Median RFS = 12.5 vs 33.9 months (*p=0.01*)



Median OS = 29.6 vs 121.9 months (*p=0.001*)



Data from MD Anderson Cancer Center

As the understanding of the biology of cancer and ACC specifically evolved, the importance of the Notch pathway and Notch-activating mutations was established. A recent publication from MD Anderson Cancer Center examined the relationship between Notch-activating mutations and ACC patient prognosis in 102 subjects, as illustrated in the figures above. The figure on the left shows that the relapse free survival, or time from diagnosis to relapse, was reduced from 33.9 months for Notch 1 wild-type, or WT, patients to 12.5 months for Notch 1 mutant patients. In addition, patients with Notch-activating mutations were more likely to present with advanced-stage disease and they developed a somewhat different pattern of metastatic disease compared to Notch 1 WT patients. Similarly, the graphic on the right demonstrates that median overall survival was reduced from 121.9 months for Notch 1 WT patients to 29.6 months for Notch 1 mutant patients. Similar results were subsequently observed in an additional retrospective study analyzing data from 84 ACC subjects at Memorial Sloan Kettering Cancer Center, where median overall survival was reduced from 204.5 months for Notch 1 WT patients to 55.1 months for Notch 1 mutant patients.

Current Treatment Landscape

The current standard of care is typically surgery followed by radiation. Radiation or systemic therapy, comprised of chemotherapy and targeted drugs, may be recommended if the tumor cannot be surgically removed or in cases of advanced metastatic disease. There are limited systemic therapy treatment options, and no FDA-approved therapies, available for patients with R/M ACC. According to the Surveillance, Epidemiology, and End Results, or SEER, the relative survival rate for all ACC patients in the United States between 1975 and 2016 was 81% at five years and 66% at ten years. Treatment has been particularly ineffective for ACC patients with metastatic disease, where survival rates are much lower: 33% at five years and 24% at ten years. According to published data from 31 Phase 2 clinical trials in ACC conducted since 2005 using a variety of treatment modalities, these treatments showed limited or no clinical activity in unselected ACC subjects. The ORR in 30 of these trials ranged from 0% to 20%, with a 47% ORR observed in one trial conducted in China. In 15 of the 31 trials, a 0% ORR was observed. Accordingly, there remains a lack of effective treatment options for patients with R/M ACC.

Our Proposed Solution for R/M ACC: AL101

We are developing AL101 as a potent, selective and injectable small molecule GSI for patients with R/M ACC with Notch-activating mutations and we believe that AL101 has the potential to be the first FDA-approved therapy for this patient population.

Our Ongoing Phase 2 ACCURACY Trial:

We are currently evaluating subjects in our ongoing Phase 2 ACCURACY trial of AL101 as a monotherapy for the treatment of R/M ACC. Our Phase 2 ACCURACY trial is an open-label, single-arm, multi-center study of AL101 administered intravenously, or IV, in subjects with ACC bearing Notch-activating mutations who have previously been treated for or are newly diagnosed with metastatic disease. As of April 28, 2020, the trial included 14 open clinical sites across the United States, Israel, Europe and Canada. We dosed 45 subjects as of April 28, 2020 and we expect to dose a total of approximately 90 subjects.

The primary endpoint of our Phase 2 ACCURACY trial is the objective response rate as measured by Response Evaluation Criteria in Solid Tumors, or RECIST, 1.1, a commonly used set of measures for evaluating the response of solid tumors to treatment, with confirmation by an independent review committee. Secondary endpoints include objective response rate by investigator review, duration of response and progression-free survival by an independent review committee and an investigator review, overall survival, safety and tolerability and pharmacokinetics, or PK. The Phase 2 ACCURACY trial is powered to assess statistical significance for these endpoints. However, the Phase 2 ACCURACY trial is ongoing and formal statistical testing will not be performed until the study is complete.

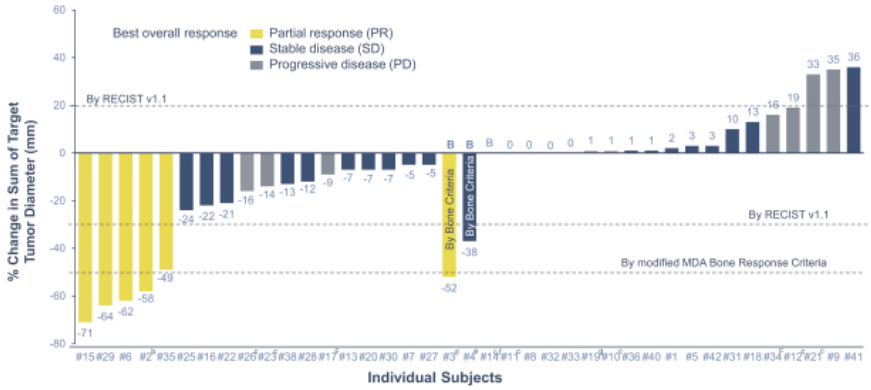
Stage 1 of the trial includes dosing a maximum of 45 subjects at 4 mg of AL101 IV once weekly, and is fully enrolled as of April 28, 2020. Stage 2 of the trial will include dosing of an additional 42 subjects at 6 mg of AL101 IV once weekly, of which three subjects have been dosed. We do not yet have interim data regarding the 6 mg dosing group. Per study protocol, dosing will continue until disease progression, unacceptable toxicity or withdrawal of consent for treatment by a subject.

Ongoing Phase 2 ACCURACY Trial Interim Clinical Data

Our interim data from the 4 mg dosing group of our Phase 2 ACCURACY trial as of April 28, 2020 showed early signs of clinical activity. As of April 28, 2020, 39 subjects were evaluable for a response using RECIST 1.1. No CRs were observed, two confirmed and four unconfirmed PRs (two of which may potentially be confirmed and two of which will remain unconfirmed as both subjects subsequently left the trial) were observed in six subjects, and SD was observed in 21 subjects, yielding a 69% disease control rate among the evaluable subjects. All six subjects with either confirmed or unconfirmed PRs had received prior radiation therapy and four subjects had received prior systemic chemotherapy. As of April 28, 2020, eight of the evaluable subjects remain on therapy.

The best objective responses observed in our Phase 2 ACCURACY trial, as determined by the investigator and measured by RECIST 1.1, are shown in the following graph, by individual subject. The dotted lines under the x-axis represent cutoffs for PR, defined as a 30% or greater reduction in the sum of the longest diameters of target lesions for RECIST 1.1 or, for bone-only disease patients, a 50% or greater reduction in lesion size for the MD Anderson modified bone response criteria. Progressive disease is defined as a 20% or greater increase in the sum of the longest diameters. Stable disease is reflected between the dotted lines at 20% and -30%.

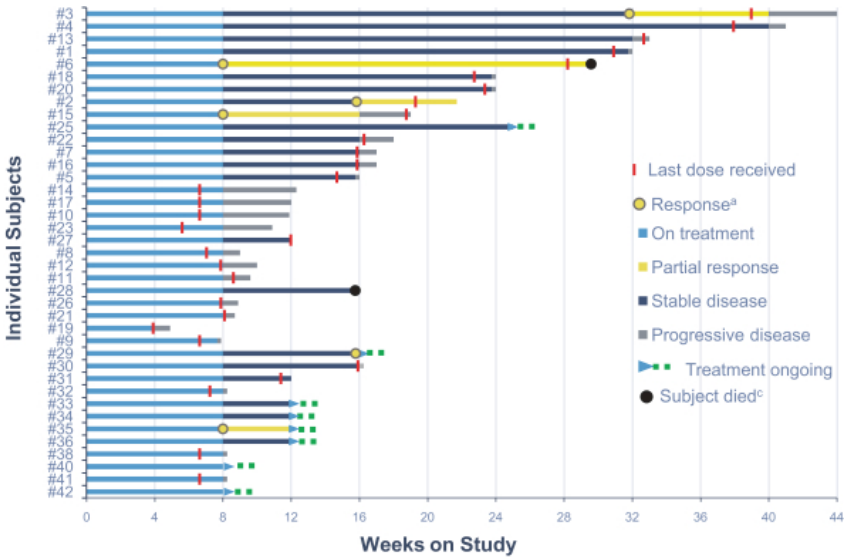
Best Objective Responses by Investigator Review (n=39)[a]



Data as of data collection cutoff date of April 28, 2020.
B—bone-only disease
a) Includes efficacy-evaluable subjects only.
b) Subject #2 had an unconfirmed PR at week 16.
c) These subjects had clinical PD.
d) Subject #3, with bone-only disease, had an unconfirmed PR at week 32 by the investigator per modified MDA Bone Response Criteria (52% disease reduction).
e) Subject #4, with bone-only disease, had SD at week 16 by the investigator per modified MDA Bone Response Criteria (38% disease reduction).
f) Subject #14, with bone-only disease, had PD at week 8 by the investigator, but the value of percentage change in tumor volume per modified MDA Bone Response Criteria is not available.
g) Subject #19 had radiographic PD.

The following graph depicts the treatment duration and clinical response of subjects in our Phase 2 ACCURACY trial as of April 28, 2020. Time to PR is denoted using yellow circles and the six subjects who remain on therapy as of the data cutoff are denoted using blue arrows. Radiographic evaluations are performed every eight weeks and the first point at which a subject achieves a PR is indicated by the change in line color following the yellow response circles. Unless otherwise indicated, the responses observed have been maintained.

Time of Objective Response[a] by Investigator Review (n=39)[b]

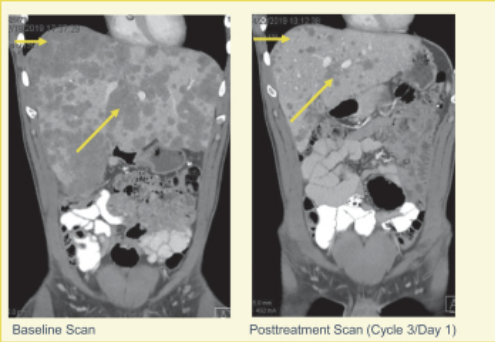


Data as of data collection cutoff date of April 28, 2020.
a) Response as assessed by investigator per RECIST 1.1; first response assessment was at week 8.
b) Represents all efficacy-evaluable subjects.
c) Only deaths occurring within 30 days after the last dose are shown.
Subject #3, Subject #4 and Subject #14 had bone-only disease. Subject #3 had an unconfirmed PR at week 32 by the investigator per modified MDA Bone Response Criteria. Subject #2 had an unconfirmed PR at week 16.

The figures below are radiographic scan results from four subjects participating in our Phase 2 ACCURACY trial who exhibited either a confirmed PR (subjects #6 and #15) or unconfirmed PR that may potentially be confirmed (subject #29 and #35) in soft tissues.

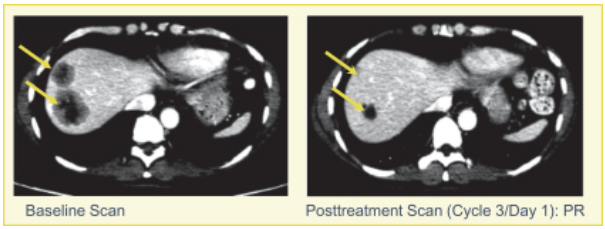
- Subject #6 was a 29 year-old male with extensive metastatic liver disease and significant right upper quadrant pain related to the enlargement of his liver. He had received prior therapy with radiation and chemotherapy treatments but the disease progressed despite these therapies. This subject exhibited gradual improvements during the clinical trial and a confirmed PR was observed at week 8. Subject #6 died shortly after week 28, within 30 days of AL101 treatment.

Subject #6



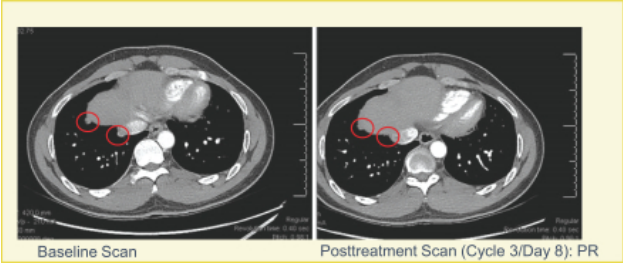
- Subject #15 was a 47 year-old female with metastatic liver disease. She had received prior therapy with surgery, radiation and chemotherapy treatments but the disease progressed despite these therapies. On trial, a substantial shrinkage of disease in this subject's liver was observed and a confirmed PR was observed at week 8. Subject #15 ended treatment and subsequent progressive disease was observed.

Subject #15



- Subject #29 is a 36 year-old male with metastatic lung disease. He had received prior therapy with surgery and radiation, but the disease progressed despite these therapies. On trial, an unconfirmed PR was observed in this subject's lung at week 8 and may potentially be confirmed by Subject #29's next scan. As of April 28, 2020, Subject #29 remains on trial.

Subject #29



- Subject #35 is a 76 year-old female with metastatic liver disease. She had received prior therapy, including systemic chemotherapy, but the disease progressed. On trial, an unconfirmed PR was observed in this subject's liver at week 8 and may potentially be confirmed by Subject #25's next scan. As of April 28, 2020, Subject #25 remains on trial.

Subject #35

We have observed subjects responding by their first radiographic exam at eight weeks following treatment. We believe that these interim results provide evidence supporting continue development of AL101 as a monotherapy for patients with R/M ACC. We expect to release additional interim results from our Phase 2 ACCURACY study at a medical conference in the second half of 2020, subject to the impact of COVID-19 on our business.

Phase 2 ACCURACY Trial Interim Safety Results

AL101 was generally observed to be well tolerated in the interim data as of April 28, 2020, with most adverse events being mild to moderate in severity. Approximately 93% of subjects experienced at least one

treatment-related adverse event, or TRAE, while approximately 24% experienced a Grade 3 or 4 TRAE. In addition, six subjects experienced a total of seven treatment-related serious adverse events, or TRSAEs. The seven TRSAEs included two Grade 2 infusion reactions, one Grade 1 keratoacanthoma, one Grade 3 aspartate aminnotransferase increase, one Grade 3 pneumonia, one Grade 3 decreased appetite and one Grade 4 hyponatremia. Eight subjects had a dose reduction from 4 mg to 2.4 mg, six of which were within two weeks of an adverse event. There were 16 dose interruptions resulting in delays of at least one week due to adverse events, seven of which were no more than two weeks in length. Four subjects began treatment but discontinued before their first post-dose radiographic evaluation. Of these four subjects, one subject discontinued due to an infusion reaction, two subjects discontinued due to non-treatment related adverse events and one subject stopped treatment without a first follow-up radiographic evaluation. Therefore, these four subjects were considered non-evaluable for efficacy. There were two deaths within 30 days of stopping AL101 treatment, which were assessed by the investigator not to be treatment-related. One additional death was reported for a subject who was not evaluated for efficacy. This death was assessed by the investigator to likely be treatment-related, though assessed by the trial sponsor to likely be the result of advanced disease and/or pneumonia. In the 6 mg dosing group, one death has been reported. This subject received a single dose of AL101 and tested positive for COVID-19 approximately three days later. The subject died approximately 10 days after dosing. The investigator assessed the serious adverse event as possibly related to treatment, but considered the COVID-19 infection as an alternate cause of death. The following chart depicts the TRAEs observed in our Phase 2 ACCURACY trial, as of the data cutoff date of April 28, 2020.

TRAEs Reported in ³15% of Subjects

	Safety Population (N=45)	
	Any Grade, n (%)	Grade 3/4*, n (%)
Diarrhea	23 (51)	2 (4)
Nausea	22 (49)	1 (2)
Fatigue	21 (47)	2 (4)
Hypophosphatemia	15 (33)	4 (9)
Cough	11 (24)	0 (0)
Vomiting	11 (24)	0 (0)
Rash	7 (16)	0 (0)
Epistaxis	7 (16)	0 (0)
All	**42 (93)**	**11 (24)**

Data as of data collection cutoff date of April 28, 2020.
Grade 1: Mild; asymptomatic or mild symptoms; clinical or diagnostic observations only; intervention not indicated.
Grade 2: Moderate; minimal, local or noninvasive intervention indicated; limiting age-appropriate instrumental activities of daily living, or instrumental ADL, which refers to activities such as preparing meals, shopping for groceries or clothes, using the telephone and managing money.
Grade 3: Severe or medically significant but not immediately life-threatening; hospitalization or prolongation of hospitalization indicated; disabling; limiting self-care ADL, which refers to bathing, dressing and undressing, feeding one's self, using the toilet, taking medications, and not being bedridden.
Grade 4: Life-threatening consequences; urgent intervention indicated.
* All events were Grade 3

Regulatory Approval Strategy

In May 2019, the FDA granted Orphan Drug Designation to AL101 for the treatment of ACC. In addition, in February 2020, the FDA granted Fast Track Designation to AL101 for the treatment of R/M ACC. Given the

significant unmet medical need and lack of FDA-approved therapies for patients with R/M ACC, we may seek a potential expedited regulatory review pathway pending additional results from the ongoing Phase 2 ACCURACY trial.

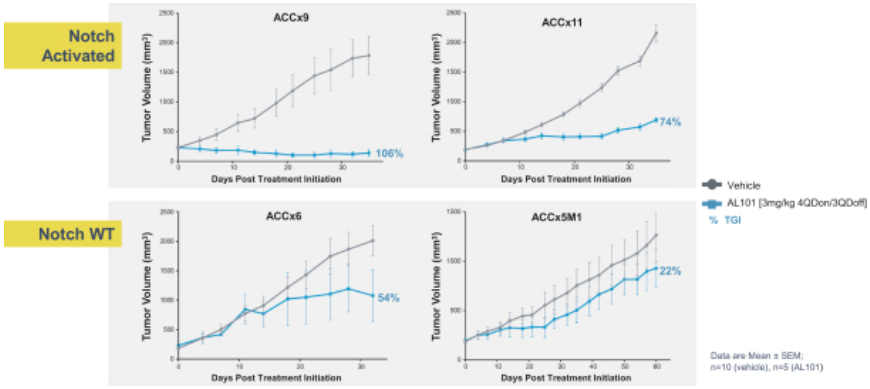
AL101 Potently Inhibited Notch-Activated ACC Tumors in PDX Models

A comprehensive preclinical and Phase 1 program for AL101 was conducted by BMS and was designed to inform the appropriate dose to be used in clinical trials and evaluate the safety of AL101. We have expanded upon the preclinical work and have generated data using four ACC PDX models. PDX mouse models allow us to assess the sensitivity of the tumors *in vivo* with Notch-activating mutations. In these models, mice are implanted with tumor tissue derived from individual patient biopsies that either do or do not have a Notch-activating mutation and we observe whether the tumor responds to treatment with our product candidates. Using these models, we have observed that the tumors with Notch-activating mutations in these indications were highly sensitive to g secretase inhibition.

The activity of AL101 in ACC was evaluated in a total of four ACC PDX models: two with activated Notch 1 (referred to as ACCx9 and ACCx11) and two with WT, non-mutated Notch (referred to as ACCx5M1 and ACCx6). In these models, tumors were implanted into mice and upon reaching an average tumor volume of 150mm^3 to 300mm^3, mice were randomized to control vehicle or AL101 treatment arms. Mice were treated at a dose of 7.5 mg/kg AL101 for four consecutive days of each week, with a three-day dosing holiday between cycles of treatment. These models were designed to evaluate the level of tumor growth inhibition observed following administration of AL101 as a monotherapy. Tumor growth inhibition, or TGI, is assessed as tumor volume in treated xenografts over vehicle treated controls, whereby 100% is equivalent to zero tumor growth on treatment and percentages higher than 100% represent tumor regression, or reduction in tumor size. In these PDX models, we observed significant TGI of AL101 as a monotherapy in the ACCx9 (106% TGI) and ACCx11 (74% TGI) models with activated Notch 1, as compared to the ACCx6 (54% TGI) and ACCx5M1 (22% TGI) models with WT, non-mutated Notch.

The following graphs depict the effect of AL101 on TGI compared to control vehicle, in each of the four ACC PDX models.

Anti-Tumor Activity of AL101 as a Monotherapy Observed in ACC PDX Tumors



Mice bearing ACC PDX tumors were treated with vehicle or AL101 for four consecutive days of each week, with a three day dosing holiday between cycles. The two models at the top harbor Notch-activating mutations while the bottom two models had WT Notch. The TGI percentage of AL101 is represented as the blue line in each graph.

These results demonstrate that AL101 showed greater activity when treating tumors with Notch-activating mutations. The results from these models support the clinical development of AL101 as a potential targeted monotherapy for patients with R/M ACC and Notch-activating mutations.

AL101 for the Treatment of Triple Negative Breast Cancer

Disease Background

TNBC is one of the most aggressive types of breast cancer. Breast cancer, which has an annual incidence of approximately 270,000 patients in the United States, is the leading cause of cancer death in women worldwide and the second leading cause of cancer death in women in the United States. Approximately 10% of breast cancer patients are diagnosed with TNBC, which is associated with a younger age at diagnosis, advanced stage at diagnosis, increased risk of visceral metastasis and decreased survival. TNBC is characterized by the lack of: estrogen receptors, progesterone receptors and excess HER2 protein. Approximately 37% of TNBC patients have R/M TNBC, resulting in an annual incidence of approximately 10,000 R/M TNBC patients in the United States. Based on primary literature and our bioinformatics research, we estimate that approximately 9% to 16% of R/M TNBC patients have Notch-activating gene alterations including mutations and other fusions.

Current Treatment Landscape

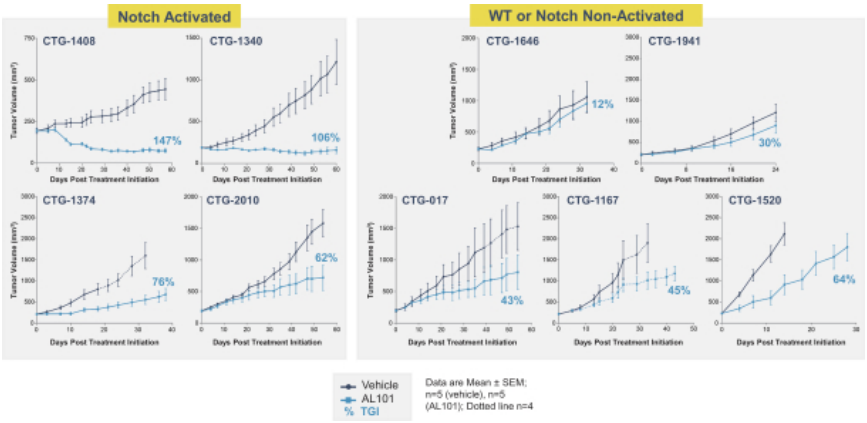
There are limited treatment options available for patients with R/M TNBC. These therapies are limited to TNBC patients that are germline breast cancer gene positive or with tumors that express high PD-L1 levels. When these patients relapse, they are treated with chemotherapy. All other TNBC patients are initially treated with chemotherapy. However, responses to chemotherapy are not durable and relapse is often rapid. Approximately 80% of first-line TNBC patients require second-line therapies and approximately 60% of these patients will progress to third-line therapies. Second-line therapies for patients with metastatic TNBC are suboptimal, with median overall survival of 10.2 months following second-line treatment regimens containing taxane, capecitabine or gemcitabine, and median overall survival of 15.2 months following second-line or later treatment with eribulin. Although the five-year survival rate for women diagnosed with TNBC is 77%, the five-year survival rate for women diagnosed with metastatic TNBC is only 10%, indicating the need for new therapies that can prolong overall survival. Targeting the Notch pathway may provide an additional treatment option to these patients, as Notch-activating mutations are known to correlate with poorer prognosis. Accordingly, we believe that there remains a lack of effective treatment options for patients with R/M TNBC.

AL101 Potently Inhibited Notch-Activated TNBC Tumors in PDX Models

Following BMS's Phase 1 study in unselected subjects, we have expanded our TNBC research and generated data from nine TNBC PDX models. The results of these models provided evidence supporting our thesis that Notch-activating mutations in TNBC are responsive to GSIs. These PDX models were selected based on Notch genetic profiling to include Notch WT or different Notch-activating mutations. Two of these PDX models had Notch WT (CTG-0017 and CTG-1520) and three of these PDX models had Notch mutations that were not activating (CTG-1646, CTG-1167 and CTG-1941), all five of which were therefore not expected to respond to GSIs. In addition, four of these PDX models had Notch-activating mutations (CTG-1340) and/or fusions (CTG-1408, CTG-1374 and CTG-2010). Tumor tissue derived from individual patient biopsies were implanted into and grown in mice, which were then randomized to control vehicle or AL101 treatment arms and treated for a maximum of 60 days.

In these PDX models, we observed that AL101 as a monotherapy showed substantial anti-tumor activity that correlated with the presence of Notch-activating mutations. In PDX models with Notch-activating mutations, tumor regression was observed and TGI ranged from 62% to 147%. In PDX models with Notch WT or non-activating mutations, tumor growth inhibition ranged from 12% to 64%. The following graphs depict the results of administration of AL101 on TGI compared to control vehicle, in each of the nine TNBC PDX models.

Anti-Tumor Activity of AL101 as a Monotherapy in TNBC PDX Tumors



Mice (n=5) bearing TNBC PDX tumors were treated with vehicle or AL101 (3 mg/kg for four consecutive days a week). The four models on the left bear Notch-activating mutations or fusions and the five models on the right either had Notch WT or non-activating mutations, which were not expected to respond to GSIs. Dotted lines represent an average of n=4 mice.

We believe that the results from these models support the clinical development of AL101 as a potential targeted monotherapy for patients with R/M TNBC with Notch-activating mutations.

Our Proposed Solution for R/M TNBC: AL101

We are developing AL101 as a monotherapy for the treatment of R/M TNBC to address the lack of effective treatment options for these patients. In the Phase 1 study of AL101 in combination with chemotherapy in unselected, heavily pretreated subjects, which included 22 TNBC subjects, a CR was observed in one TNBC subject, PRs were observed in seven TNBC subjects and SD was observed in five TNBC subjects. Our IND for AL101 for the treatment of TNBC was accepted by the FDA in April 2020. Based on these findings and supporting data from our own PDX models, we intend to commence a Phase 2 clinical trial of AL101 as a monotherapy for the treatment of R/M TNBC in patients with Notch-activating mutations in the second half of 2020, subject to the impact of COVID-19 on our business.

Design for Phase 2 Clinical Trial of AL101 for the Treatment of R/M TNBC

We expect our proposed Phase 2 clinical trial will be an open-label, single-arm, multi-center study of AL101 administered IV in subjects with TNBC bearing Notch-activating mutations who have failed two or fewer lines of therapy. We anticipate enrolling up to 67 subjects in this trial. The design of our proposed Phase 2 clinical trial is below.

* Includes six subjects in lead-in.

We expect the primary endpoint of the trial will be objective response rate. Secondary endpoints may include safety, duration of response, progression free survival and relapse free survival. We anticipate that subjects will be dosed with AL101 IV once weekly, and that dosing will continue until lack of clinical benefit is observed or consent is withdrawn.

AL101 for the Treatment of T-cell Acute Lymphoblastic Leukemia

Disease Background

T-ALL is an aggressive, rare form of acute lymphoblastic leukemia, a disease which has an annual incidence of approximately 6,000 patients in the United States. T-ALL has an annual incidence of approximately 1,200 patients in the United States, of which an estimated 400, including pediatric patients, present for the treatment of R/R T-ALL. Notch is known to be a critical component of T-cell development and is inherently implicated as a tumorigenic driver in T-ALL. Approximately 65% of all T-ALL patients have Notch-activating mutations. In addition, there is an incremental subset of patients with Notch pathway activation who do not bear Notch-activating mutations.

T-ALL often presents as a result of the bone marrow being unable to produce sufficient amounts of normal blood cells, leading to symptoms such as anemia, infection, bleeding, bruising, fever, weakness and fatigue. Patients suffering from T-ALL frequently have central nervous system complications, as well as swollen lymph nodes in the mediastinum, or middle of the chest, which often affects breathing and circulation.

Current Treatment Landscape

The curative therapy for T-ALL is an allogeneic transplant. However, in order to be eligible to receive a transplant, patients must have exhibited a CR to prior therapies. The current standard first-line therapy for T-ALL is an intensive chemotherapy regimen, which yields overall survival rates greater than 80% among pediatric patients and approximately 50% among adult patients. Although first-line therapy is effective in most T-ALL patients, an estimated 55% of adult patients and 20% of pediatric patients will relapse. Second-line therapies for R/R T-ALL include targeted therapies administered in combination with chemotherapy and have shown limited efficacy, with an overall survival rate lower than 20% for pediatric patients. As a result, we believe that there remains a lack of effective treatment options for patients with R/R T-ALL.

Our Proposed Solution for R/R T-ALL: AL101

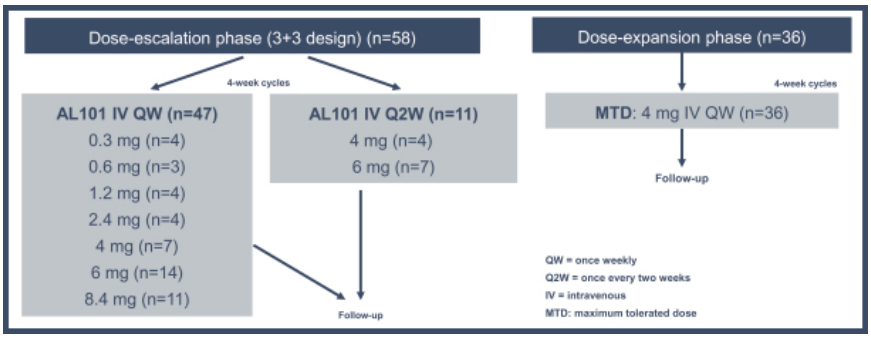
We are developing AL101 for the treatment of R/R T-ALL to address the lack of effective treatment options for these patients. In the Phase 1 study of AL101, which included 26 unselected, heavily pretreated T-ALL evaluable subjects treated at 4 mg or 6 mg dose levels, CRs were observed in two subjects and a PR was observed in one subject. Of the three subjects who displayed a response, two had a confirmed Notch-activating mutation. Based on these findings and preclinical studies, we intend to commence a Phase 2 clinical trial of AL101 for the treatment of R/R T-ALL in the second half of 2020, subject to the impact of COVID-19 on our business. We expect our proposed Phase 2 trial will be an open-label, single-arm, multi-center study of AL101 in R/R T-ALL subjects.

Phase 1 Studies

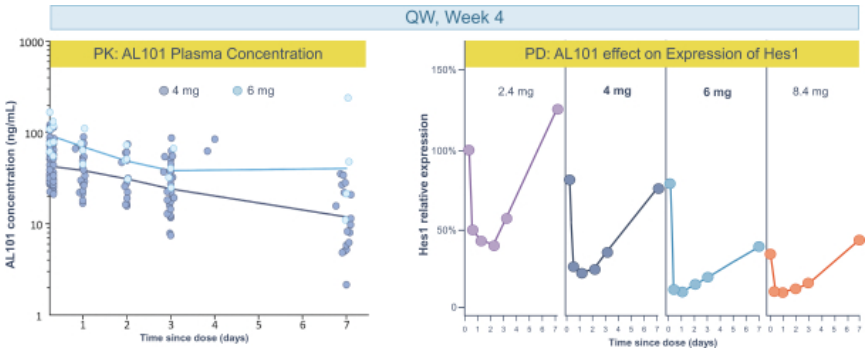
BMS evaluated AL101 in more than 200 unselected subjects with various cancers across three Phase 1 studies. While these Phase 1 studies did not report statistically significant overall results, clinical activity was observed in cancers in which activation of the Notch pathway is a known tumorigenic driver. In these Phase 1 studies, the recommended clinical dose for our ongoing Phase 2 ACCURACY trial was established. A summary of the three Phase 1 studies is below.

CA216001

In a Phase 1 study of AL101 in heavily pretreated subjects with advanced or metastatic tumors, which we refer to as the CA216001 study, AL101 IV was administered as a monotherapy. A total of 58 subjects were evaluated in the dose-escalation phase and an additional 36 subjects were evaluated in the dose-expansion phase. Of these subjects, 43 were treated with 4 mg of AL101 IV once weekly and 14 subjects were treated with 6 mg of AL101 IV once weekly. An additional 11 subjects were treated in a twice-weekly dosing arm and received either 4 mg or 6 mg of AL101 IV twice weekly. The primary objective of the CA216001 study was to evaluate the safety and tolerability of AL101. Secondary objectives included evaluating the PK, pharmacodynamics, or PD, changes in the expression of Notch-induced genes and the anti-tumor activity of AL101. Formal statistical testing for these endpoints was not performed and the results were presented as descriptive statistics. The design of this study, including dose groupings, is depicted below.



Of the 94 subjects evaluated in this study, two subjects had ACC and three subjects had desmoid tumors. PRs were observed in three subjects, including one subject with ACC and two subjects with desmoid tumors. In addition, SD was observed in 10 subjects, including one subject with ACC and one subject with desmoid tumors. As shown in the below graphs, the PK of AL101 was linear, with dose-dependent increases in exposure that correlated with suppression of the PD marker Hes1.



Subjects enrolled in the CA216001 study were heavily pretreated, with over 70% of subjects previously undergoing at least three lines of prior therapy. AL101 was generally observed to be well tolerated at the dose

chosen for our Phase 2 ACCURACY trial. During the course of the study, there were 27 deaths, including one death due to hepatic failure in the highest weekly dose tested (8.4 mg) that was assessed by the investigator to be treatment-related. Treatment was discontinued in nine subjects due to TRAEs. Approximately 89% of subjects experienced at least one TRAE and approximately 51% of subjects experienced at least one Grade 3 or 4 TRAEs. In addition, approximately 16% of subjects dosed with 4 mg and approximately 29% of subjects dosed with 6 mg experienced TRSAEs. The following table represents the most commonly reported TRAEs.

TRAEs reported in ≥15% of all treated subjects	Subjects treated with AL101 4 mg QW (n=43)		Subjects treated with AL101 6 mg QW (n=14)		All AL101 treated subjects (n=94)	
	Any Grade	Grade 3-4	Any Grade	Grade 3-4	Any Grade	Grade 3-4
Diarrhea, n (%)	29 (67)	8 (19)	10 (71)	6 (43)	59 (63)	18 (19)
Hypophosphatemia, n (%)	26 (60)	18 (42)	11 (79)	7 (50)	50 (53)	33 (35)
Fatigue, n (%)	15 (35)	0	11 (79)	0	42 (45)	1 (1)
Nausea, n (%)	18 (42)	1 (2)	10 (71)	0	41 (44)	1 (1)
Vomiting, n (%)	13 (30)	1 (2)	5 (36)	1 (7)	28 (30)	4 (4)
Decreased appetite, n (%)	11 (26)	0	6 (43)	0	25 (27)	0
Hypokalemia, n (%)	9 (21)	3 (7)	3 (21)	1 (7)	15 (16)	6 (6)

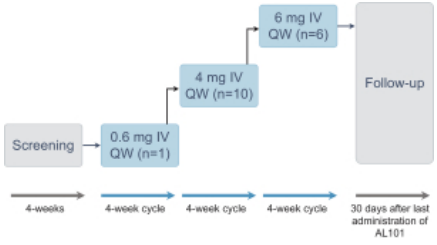
QW = once weekly

The results from this Phase 1 study of AL101 supported advancing the once weekly dosing regimen of 4 mg or 6 mg and showed early signs of clinical activity across solid tumor types. In addition, AL101 was generally observed to be well tolerated at the dose chosen for our Phase 2 ACCURACY trial.

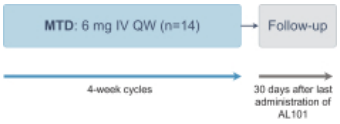
CA216002

In a Phase 1 study of AL101 in 31 heavily pretreated subjects, which included four T-LL subjects and 27 T-ALL subjects, AL101 IV was administered QW, or once weekly, as a monotherapy. We refer to this study as the CA216002 study. A total of 17 subjects were evaluated in the dose-escalation phase and an additional 14 subjects were evaluated in the dose-expansion phase. The primary objective of the CA216002 study was to evaluate the safety and tolerability of AL101. Secondary objectives included evaluating the PK, PD changes in the expression of Notch-induced genes and the anti-tumor activity of AL101. Formal statistical testing for these endpoints was not performed and the results were presented as descriptive statistics. The design of this study, including dose groupings, is depicted below.

Dose-escalation Phase (3+3 design) (n=17)



Dose-expansion Phase (n=14)



A total of 26 T-ALL subjects in this study received either a 4 mg or 6 mg dosage of AL101, 11 of whom had Notch 1 mutations. Objective responses were observed in three subjects with T-ALL, each in the 6 mg dose group, with CRs observed in two subjects and a PR observed in one subject. Of these three subjects, two had

Notch 1 mutations. Following the administration of AL101, eight subjects with T-ALL experienced a 50% or greater reduction in leukemic blasts in bone marrow.

Subjects enrolled in the CA216002 study were heavily pretreated, with over 50% of subjects previously undergoing at least three lines of prior therapy. AL101 was generally well tolerated during the study. During the course of the study, there were 20 deaths, including one patient in the 4 mg once weekly dosing group who was heavily pretreated with at least four prior systemic therapies and died due to gastrointestinal hemorrhage. While this patient's death was assessed by the investigator not to be treatment-related, BMS determined that it was possible the death was treatment-related. Treatment was discontinued in one subject due to TRAEs. Approximately 74% of subjects experienced at least one TRAE and approximately 23% of subjects experienced at least one Grade 3 or 4 TRAEs. In addition, approximately 16% of subjects experienced TRSAEs, which included single events of hepatoxicity and hypersensitivity in the 4 mg dose cohort and single events of anemia, diarrhea and infusion-related reaction in the 6 mg dose cohort. The following table represents the most commonly reported TRAEs.

TRAEs reported in ≥ 15% of all treated subjects	Subjects treated with AL101 4 mg QW (n=10)		Subjects treated with AL101 6 mg QW (n=20)		All AL101 treated subjects (n=31)	
	Any Grade	Grade 3-4	Any Grade	Grade 3-4	Any Grade	Grade 3-4
Diarrhea, n (%)	3 (30)	1 (10)	12 (60)	0	15 (48)	1 (3)
Nausea, n (%)	1 (10)	0	4 (20)	0	5 (16)	0
Vomiting, n (%)	0	0	4 (20)	0	4 (13)	0

The results from this Phase 1 study of AL101 supported advancing the anticipated once weekly dosing regimen of 6 mg, as this dose showed signs of clinical activity and was generally observed to be well tolerated.

CA216003

In a Phase 1 study in heavily pretreated subjects with advanced or metastatic solid tumors, which we refer to as the CA216003 study, AL101 IV was administered in combination with three different chemotherapy regimens. A total of 95 subjects were evaluated in the study, with 90 subjects receiving both chemotherapy and AL101. The primary objective of the CA216003 study was to evaluate the safety and tolerability of AL101 in combination with chemotherapy. Secondary objectives included evaluating the PK of AL101 in combination with chemotherapy, PD changes in the expression of Notch-induced genes after treatment with AL101 in combination with chemotherapy and the anti-tumor activity of AL101 in combination with chemotherapy. Formal statistical testing for these endpoints was not performed and the results were presented as descriptive statistics.

Of the 95 subjects evaluated in this study, 22 subjects had TNBC. Of the TNBC subjects, a CR was observed in one subject, PRs were observed in seven subjects and SD was observed in five subjects.

Subjects enrolled in the CA216003 study were heavily pretreated, with 40% of subjects previously undergoing at least three lines of prior therapy. AL101 in combination with chemotherapy was generally observed to be well tolerated during the study. During the course of the study, there were 32 deaths, but none were assessed by the investigator or BMS to be treatment-related. Treatment was discontinued in 15 subjects due to TRAEs. Nearly all subjects experienced at least one TRAE and approximately 82% of subjects experienced at least one Grade 3 or 4 TRAE. In addition, approximately 34% of subjects experienced TRSAEs. The most commonly reported Grade 3 or 4 TRSAEs included febrile neutropenia (10%) and diarrhea (6%). The most commonly reported TRAEs included: fatigue (78%), diarrhea (63%), hypophosphatemia (62%), nausea (52%), decreased appetite (46%), vomiting (39%), alopecia (38%), anemia (31%), neutropenia (26%), rash (26%), dysgeusia, or distortion of the sense of taste, (20%), dehydration (19%), weight decrease (18%), thrombocytopenia, or low blood platelet count, (17%), hypokalemia, or low potassium levels, (17%), stomatitis, or inflammation of the mouth and lips, (16%) and myalgia, or muscle soreness (16%).

Our Novel Approach: AL102

Overview

AL102 is being developed as a potent, selective and oral GSI. We obtained an exclusive, worldwide license to develop and commercialize AL102 from BMS in November 2017. We are initially developing AL102 for the treatment of desmoid tumors. In addition, we are collaborating with Novartis to develop AL102 for the treatment of MM in combination with Novartis' BCMA-targeting agents. We believe that the clinical activity of BCMA-targeting agents may be enhanced when used in combination with a GSI such as AL102.

AL102 for the Treatment of Desmoid Tumors

Disease Background

Desmoid tumors, also called aggressive fibromatosis, are rare connective tissue neoplasms with an annual incidence of approximately 1,700 patients in the United States, and arise in the extremities, abdominal wall, mesenteric root, and chest wall. An estimated 7% to 15% of desmoid tumors present in the head and neck. They do not metastasize, but often aggressively infiltrate neurovascular structures and vital organs resulting in pain, loss of function, organ dysfunction, and death.

Desmoid tumors are typically diagnosed in patients between 15 and 60 years of age, more often in young adults, with a two- to three-fold female predominance and no significant racial or ethnic predilection.

Current Treatment Landscape

Although surgery and radiation remain the primary therapies for desmoid tumors, there are no treatment options for some patients given the diffuse nature of the tumor in some tissues. Surgery and radiation suffer from additional shortcomings including the morbidity associated with resection, disfigurement and/or functional impairment, post-operative complications and frequent recurrences. Aggressive adjuvant radiation therapy and surgical resection with wide margins of normal tissue may improve rates of post-surgical recurrence, which can occur in up to 72% of patients.

There are no FDA-approved systemic therapies for the treatment of unresectable, recurrent or progressive desmoid tumors and there is no currently accepted standard of care. Since current treatment responses are insufficient and not durable, there is an unmet medical need for the treatment of recurrent or progressive tumors (systemic therapy). Given the high recurrence and progression rates and lack of effective treatment options, we believe that there is a sizeable patient population with desmoid tumors with a high unmet medical need.

Clinical Evidence of GSI Activity in Desmoid Tumors

Based on data from multiple clinical evaluations, including data from three patients with desmoid tumors evaluated in a Phase 1 study of AL101 conducted by BMS, we believe that GSIs have the potential to address the shortcomings associated with existing treatment options for patients with desmoid tumors. In the Phase 1 study of AL101, PRs were observed in two subjects with desmoid tumors and SD was observed in another subject with desmoid tumors. In addition, three subjects, including two subjects from the Phase 1 study of AL101, entered into an expanded access program.

Phase 1 Study of AL102

Prior to our in-licensing of AL102, BMS conducted preclinical toxicity, PK and PD studies. AL102 was administered orally as a monotherapy in a Phase 1 study in 36 heavily pretreated cancer subjects. The primary objective of the study was to evaluate the safety, tolerability and proper dosage of AL102. Secondary objectives included evaluating the PK, PD changes in the expression of Notch-induced genes and the anti-tumor activity of

AL102. Formal statistical testing for these endpoints was not performed and the results were presented as descriptive statistics. The study had two arms. Arm A was designed to study daily dosing while Arm B was designed to study dosing two consecutive days each week. The design of this study, including dose groupings, is depicted below:

Dose escalation phase (n=36)

Of the 36 subjects evaluated in the study, SD was observed in 11 subjects, five of whom received AL102 for five months or longer and included subjects with ACC, fibromatosis (which is closely related to desmoid tumors), renal cell cancer and retroperitoneal fibroscarcoma.

The maximum tolerated dose for a once daily dosing regimen of Arm A was 1.5 mg, with one dose-limiting toxicity of Grade 3 nausea in the six dose-limited toxicity evaluable subjects. On the once daily schedule, the 2 mg dose was not tolerated, with dose-limiting toxicities in three of the five dose-limiting toxicity evaluable subjects, which included Grade 3 events of ileus, nausea, or pruritus/urticaria. A maximum tolerated dose was not established for a twice weekly dosing regimen of AL102, as Arm B was ongoing at the time that this study was terminated. The highest tolerated dose was 4 mg twice weekly, with no dose-limiting toxicities in the two dose-limiting toxicity evaluable subjects. A higher dose of 8 mg was not tolerated, with dose-limiting toxicities in two of the six dose-limiting toxicity evaluable subjects, which included Grade 3 diarrhea or Grade 3 nausea/dehydration/anorexia with Grade 2 fatigue. The most common TRAEs in this study included diarrhea (72%), hypophosphatemia (61%), nausea (61%), vomiting (44%), fatigue (44%), decreased appetite (36%), rash (31%), hypokalemia (28%) and pruritus (25%). In addition, TRSAEs experienced by more than one subject included diarrhea (8%) and nausea (8%).

BMS elected to terminate this study prior to completion due to strategic considerations.

Our Proposed Solution for Desmoid Tumors: AL102

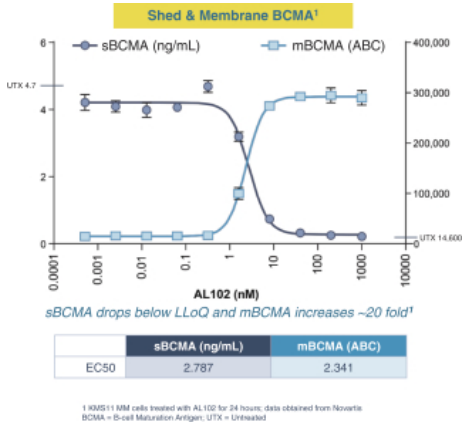
We are developing AL102 as a monotherapy for the treatment of desmoid tumors to address the lack of effective treatment options for these patients. Given our expertise in the Notch pathway, we believe that the Notch pathway plays a critical role in desmoid tumors. This is potentially due to crosstalk between Notch and regulated WNT pathway, which is the hallmark of desmoid progression. We are leveraging the findings from the Phase 1 studies conducted by BMS and intend to initiate a Phase 2 clinical trial of AL102 for the treatment of desmoid tumors in second half of 2020, subject to the impact of COVID-19 on our business.

AL102 for the Treatment of Multiple Myeloma

Despite numerous advances in the treatment landscape for MM, the disease remains incurable. BCMA is ubiquitously expressed on myeloma cells and is currently a target of active studies utilizing a number of therapeutic approaches. Increasing the expression of the BCMA on target cells and reducing the shedding in the circulation is believed to potentially enhance therapies and increase responses.

We are collaborating with Novartis to develop AL102 for the treatment of MM in combination with Novartis' BCMA-targeting therapies. In December 2018, we granted Novartis the exclusive ability to evaluate, develop and potentially license and commercialize AL102, as a monotherapy and in combination with other therapies, for the treatment of MM. Novartis conducted a preclinical study evaluating AL102 alone and in combination with an investigational anti-BCMA-CD3 bispecific antibody, or BisAb, controlled by Novartis. Using a preclinical cell line model of human multiple myeloma (KMS11) and shown in the figure below, Novartis' study showed that treatment with AL102 resulted in an approximate 20-fold increase in the levels of cell surface expression of BCMA and decreased shedding of BCMA to below lower levels of detection, as measured by levels of soluble BCMA.

AL102 Reduced Shed BCMA and Increased Membrane BCMA Levels in MM Cell Lines

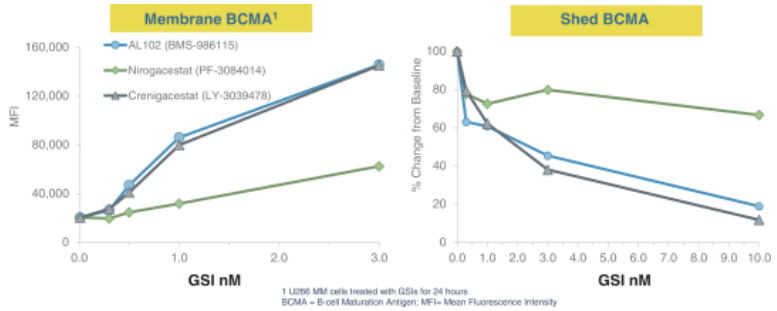


	sBCMA (ng/mL)	mBCMA (ABC)
EC50	2.787	2.341

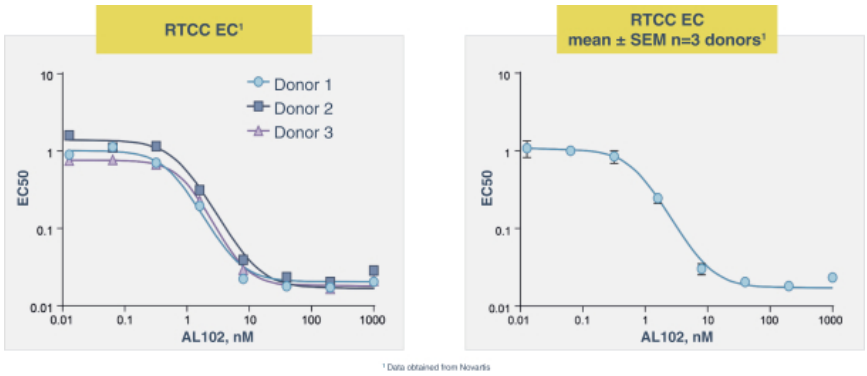
1 KMS11 MM cells treated with AL102 for 24 hours; data obtained from Novartis
BCMA = B-cell Maturation Antigen; UTX = Untreated

Soluble BCMA levels (ng/mL) from culture supernatants of KMS11 cells treated overnight with a serial dilution of AL102 are shown on the left Y axis. Antibody binding capacity, or ABC, of anti-BCMA on the surface of AL102 treated KMS11 cells is shown on the right Y axis. AL102 inhibited shedding of BCMA from KMS11 cells in a dose-dependent manner, which resulted in increased BCMA expression on the cell surface over the same dose range. Untreated KMS11 cells have a BCMA ABC of approximately 14,000. The average ABC with treatment of 10 nM AL102 was approximately 285,000, representing an approximate 20-fold increase in cell surface BCMA expression with AL102 treatment.

In addition, we tested increasing concentrations of three different GSI molecules, AL102, Nirogacestat and Crenigacestat on shed BCMA and membrane BCMA in UM266 multiple myeloma cell lines. As seen in the figures below, similar dose related activity as measured by mean flurescence intensity, or MFI, for membrane BCMA and by change from baseline for shed BCMA was observed for AL102 and Crenigacestat while relatively weaker activity was observed for Nirogacestat.



As shown below, in an assay designed by Novartis to evaluate the BisAb redirected t-cell cytotoxicity, or RTCC, activity *in vitro*, using human MM cells from donors, AL102 enhanced BisAb RTCC activity in a dose-dependent manner with enhancement of BisAb potency at concentrations of approximately 8nM or higher.



Novartis has initiated a Phase 1 study with its bi-specific anti-BCMA agent, but dosing of AL102 has not yet been initiated. Novartis will be responsible for the conduct and expenses of any trials of AL102 in combination with their BCMA-targeting agents. We believe that the clinical activity of BCMA-targeting agents may also be enhanced in clinical trials when used in combination with a GSI such as AL102.

License Agreements

Bristol-Myers Squibb Company License Agreement

In November 2017, we entered into a license agreement, or the BMS License Agreement, with BMS, under which BMS granted us a worldwide, non-transferable, exclusive, sublicensable license under certain patent rights

and know-how controlled by BMS to research, discover, develop, make, have made, use, sell, offer to sell, export, import and commercialize AL101 and AL102, or the BMS Licensed Compounds, and products containing AL101 or AL102, or the BMS Licensed Products, for all uses including the prevention, treatment or control of any human or animal disease, disorder or condition.

Under the BMS License Agreement, we are obligated to use commercially reasonable efforts, either through ourselves or through our affiliates or sublicensees, to develop at least one BMS Licensed Product. As between BMS and us, we have sole responsibility for, and bear the cost of, conducting research and development and preparing all regulatory filings and related submissions with respect to the BMS Licensed Compounds and/or BMS Licensed Products. BMS has assigned and transferred all INDs for the BMS Licensed Compounds to us. We are also required to use commercially reasonable efforts to obtain regulatory approvals in certain major market countries for at least one BMS Licensed Product, as well as to commercialize and sell each BMS Licensed Product after obtaining such regulatory approval. As between BMS and us, we have sole responsibility for, and bear the cost of, commercializing BMS Licensed Products. For a limited period of time, we may not, either by ourselves or through our affiliates, sublicensees, or any other third parties, engage directly or indirectly in the clinical development or commercialization of a Notch inhibitor molecule that is not a BMS Licensed Compound.

As consideration of the rights granted by BMS to us under the BMS License Agreement, we paid BMS a payment of $6 million and issued to BMS 1,125,929 shares of Series A preferred stock valued at approximately $7.3 million. We are required to pay BMS payments upon the achievement of certain development or regulatory milestone events of up to $95 million in the aggregate with respect to the first BMS Licensed Compound to achieve each such event and up to $47 million in the aggregate with respect to each additional BMS Licensed Compound to achieve each such event. We are also obligated to pay BMS payments of up to $50 million in the aggregate for each BMS Licensed Product that achieves certain sales-based milestone events and tiered royalties on net sales of each BMS Licensed Product by us or our affiliates or sublicensees at rates ranging from a high single-digit to low teen percentage, depending on the total annual worldwide net sales of each such Licensed Product. If we sublicense or assign any rights to the licensed patents, the BMS Licensed Compounds and/or the BMS Licensed Products, we are required to share with BMS a portion of all consideration we receive from such sublicense or assignment, ranging from a mid-teen to mid-double-digit percentage, depending on the development stage of the most advanced BMS Licensed Compound or BMS Licensed Product that is subject to the applicable sublicense or assignment, but such portion may be reduced based on the milestone or royalty payments that are payable by us to BMS under the BMS License Agreement.

The BMS License Agreement remains in effect, on a country-by-country and BMS Licensed Product-by-BMS Licensed Product basis, until the expiration of royalty obligations with respect to a given BMS Licensed Product in the applicable country. Royalties are paid on a country-by-country and BMS Licensed Product-by-BMS Licensed Product basis from the first commercial sale of a particular BMS Licensed Product in a country until the latest of (a) 10 years after the first commercial sale of such BMS Licensed Product in such country, (b) when such BMS Licensed Product is no longer covered by a valid claim in the licensed patent rights in such country, or (c) the expiration of any regulatory or marketing exclusivity for such BMS Licensed Product in such country.

Any inventions, and related patent rights, invented solely by either party pursuant to activities conducted under the BMS License Agreement shall be solely owned by such party, and any inventions, and related patent rights, conceived of jointly by us and BMS pursuant to activities conducted under the BMS License Agreement shall be jointly owned by us and BMS, with BMS's rights thereto included in our exclusive license. We have the first right—with reasonable consultation with, or participation by, BMS—to prepare, prosecute, maintain and enforce the licensed patents, at our expense.

BMS has the right to terminate the BMS License Agreement in its entirety upon written notice to us (a) for insolvency-related events involving us, (b) for our material breach of the BMS License Agreement if such breach

remains uncured for a defined period of time, (c) for our failure to fulfill our obligations to develop or commercialize the BMS Licensed Compounds and/or BMS Licensed Products not remedied within a defined period of time following written notice by BMS, or (d) if we or our affiliates commence any action challenging the validity, scope, enforceability or patentability of any of the licensed patent rights. We have the right to terminate the BMS License Agreement (a) for convenience upon prior written notice to BMS, the length of notice dependent on whether a BMS Licensed Product has received regulatory approval, (b) upon immediate written notice to BMS for insolvency-related events involving BMS, (c) for BMS's material breach of the BMS License Agreement if such breach remains uncured for a defined period of time, or (d) on a BMS Licensed Compound-by-BMS Licensed Compound and/or BMS Licensed Product-by-BMS Licensed Product basis upon immediate written notice to BMS if we reasonably determine that there are unexpected safety and public health issues relating to the applicable BMS Licensed Compounds and/or BMS Licensed Products. Upon termination of the BMS License Agreement in its entirety by us for convenience or by BMS, we grant an exclusive, non-transferable, sublicensable, worldwide license to BMS under certain of our patent rights that are necessary to develop, manufacture or commercialize BMS Licensed Compounds or BMS Licensed Products. In exchange for such license, BMS must pay us a low single-digit percentage royalty on net sales of the BMS Licensed Compounds and/or BMS Licensed Products by it or its affiliates, licensees or sublicensees, provided that the termination occurred after a specified developmental milestone for such BMS Licensed Compounds and/or BMS Licensed Products.

Novartis International Pharmaceutical Limited Evaluation, Option and License Agreement

In December 2018, we entered into an evaluation, option and license agreement, or the Novartis Agreement, with Novartis International Pharmaceutical Limited, or Novartis, pursuant to which Novartis agreed to conduct certain studies to evaluate AL102 in combination with its B-cell maturation antigen, or BCMA, therapies in multiple myeloma, and we agreed to supply AL102 for such studies. All supply and development costs associated with such evaluation studies are fully borne by Novartis.

Under the Novartis Agreement, we granted Novartis an exclusive option to obtain an exclusive (including as to us and our affiliates), sublicensable (subject to certain terms and conditions), worldwide license and sublicense (as applicable) under certain patent rights and know-how controlled by us (including applicable patent rights and know-how that are licensed from BMS pursuant to the BMS License Agreement) to research, develop, manufacture (subject to our non-exclusive right to manufacture and supply AL102 and/or the Novartis Licensed Product for Novartis) and commercialize AL102 and/or any pharmaceutical product containing AL102 as the sole active ingredient, or the Novartis Licensed Product, for the diagnosis, prophylaxis, treatment, or prevention of multiple myeloma in humans. We also granted Novartis the right of first negotiation for the license rights to conduct development or commercialization activities with respect to the use of AL102 for indications other than multiple myeloma. Additionally, from the exercise by Novartis of its option until the termination of the Novartis Agreement, we may not, either ourselves or through our affiliates or any other third parties, directly or indirectly research, develop or commercialize certain BCMA-related compounds for the treatment of multiple myeloma.

Novartis must pay us a low eight figure option exercise fee in order to exercise its option and activate its license, upon which we will be eligible to receive development, regulatory and commercial milestone payments of up to $245 million in the aggregate and tiered royalties on net sales of Novartis Licensed Products by Novartis or its affiliates or sublicensees at rates ranging from a mid-single-digit to low double-digit percentage, depending on the total annual worldwide net sales of Novartis Licensed Products. Royalties will be paid on a country-by-country and Novartis Licensed Product-by-Novartis Licensed Product basis from the first commercial sale of a particular Novartis Licensed Product in a country until the latest of (a) 10 years after the first commercial sale of such Novartis Licensed Product in such country, (b) when such Novartis Licensed Product is no longer covered by a valid claim in the licensed patent rights in such country, or (c) the expiration of any regulatory or marketing exclusivity for such Novartis Licensed Product in such country. Contemporaneously with the Novartis Agreement, we entered into a stock purchase agreement and associated investment agreements, or the SPA, with Novartis's affiliate, Novartis Institutes for BioMedical Research, Inc., or NIBRI, pursuant to which NIBRI acquired a $10 million equity stake in us.

Novartis shall own any inventions, and related patent rights, invented solely by it or jointly with us in connection with activities conducted pursuant to the Novartis Agreement. We will maintain first right to prosecute and maintain any patents licensed to Novartis, both before and after its exercise of its option. We maintain the first right to defend and enforce our patents prior to Novartis's exercise of its option, upon which Novartis gains such right with respect to patents included in the license.

The option we granted to Novartis will remain in effect until the earlier of (a) 60 days following the last visit of the last subject in the evaluation studies, (b) the termination of the Novartis Agreement, or (c) 36 months following the delivery by us to Novartis of sufficient amounts of clinical evaluation materials to conduct the anticipated clinical studies. The Novartis Agreement remains in effect until such time as no Novartis Licensed Product is being developed or commercialized by Novartis, its affiliates, or sublicensees (including distributors or commercial partners), unless terminated earlier. We have the right to terminate the Novartis Agreement (a) for Novartis's material breach if such breach remains uncured for 60 days (such cure period shall be extended for an additional period during which Novartis is making good faith efforts to cure such breach) or (b) for Novartis's failure to use commercially reasonable efforts to develop or commercialize AL102 and/or the Novartis Licensed Product not remedied within four months following written notice to Novartis. Novartis has the right to terminate the Novartis Agreement (a) in its entirety or on a country-by-country basis for convenience, upon 60 days' written notice to us, (b) for our material breach if such breach remains uncured for 60 days (such cure period shall be extended for an additional period during which we are making good faith efforts to cure such breach) or (c) upon immediate written notice to us for insolvency-related events involving us.

Manufacturing

We rely on third parties to manufacture AL101 and AL102. We have entered into agreements with leading CMOs to produce both AL101 and AL102 for our ongoing and planned clinical studies and clinical trials for AL101 and AL102. We are also currently in the process of manufacturing batches to support all of our expected clinical supply as well as batches to support a potential NDA submission. We require all of our contract manufacturing organizations, or CMOs, to conduct manufacturing activities in compliance with current good manufacturing practice, or cGMP, requirements. We currently rely solely on these CMOs for scale-up and process development work and to produce sufficient quantities of our product candidates for use in clinical trials. We anticipate that these CMOs will have the capacity to support both clinical supply and commercial-scale production, but we do not have any formal agreements at this time to cover commercial production. We may also elect to enter into agreements with other CMOs to manufacture supplies of drug substance and finished drug product.

Sales and Marketing

We intend to market and commercialize our product candidates, if approved, by building our own specialized sales and marketing organization initially in the United States. We believe our target market can be addressed by a small number of dedicated marketing and medical sales specialists covering specialized oncologists treating the target patient population. We may also selectively pursue strategic collaborations with third parties to maximize the commercial potential of our product candidates, if approved.

Competition

The pharmaceutical industry is characterized by rapid evolution of technologies and intense competition. While we believe that our product candidates, technology, knowledge, experience and scientific resources provide us with competitive advantages, we face competition from major pharmaceutical and biotechnology companies, academic institutions, governmental agencies and public and private research institutions, among others. Any product candidates that we successfully develop and commercialize will compete with approved treatment options, if any, including off-label therapies, and new therapies that may become available in the future. Key considerations that would impact our ability to effectively compete with other therapies include the

efficacy, safety, method of administration, cost, level of promotional activity and intellectual property protection of our products. Many of the companies against which we may compete have significantly greater financial resources and expertise than we do in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved products.

We consider our most direct competitors with respect to AL101 and AL102 to be companies developing GSIs, including SpringWorks Therapeutics, Inc. and Celgene Corporation, recently acquired by BMS, or companies that are developing Notch inhibitors, including, but not limited to, Cellestia Biotech AG and Ciclomed LLC.

In addition, with respect to AL101 for the treatment of ACC, we are aware that other companies are, or may be, developing products for this indication, including, but not limited to, GlaxoSmithKline plc, Cellestia Biotech AG and LSK BioPartners, Inc., which we believe all are at an early development stage.

With respect to AL101 for the treatment of TNBC, we are aware that other companies are, or may be, developing products for this indication, including, but not limited to, F. Hoffmann-La Roche Ltd., Merck & Co., Inc., BMS, AstraZeneca Plc, Immunomedics Inc. and Pfizer Inc.

With respect to AL101 for the treatment of T-ALL, we are aware that other companies are, or may be, developing products for this indication, including, but not limited to, Sanofi S.A., Janssen Pharmaceutica, Jazz Pharmaceuticals plc and Vasgene Therapeutics, Inc.

With respect to AL102, we are aware that other companies are, or may be, developing product candidates for the treatment of desmoid tumors, including, but not limited to, SpringWorks Therapeutics, Inc., Bayer Corporation, Cellestia Biotech AG and Iterion Therapeutics, Inc.

With respect to MM, we are aware that other companies are, or may be, developing product candidates with GSI as anti-BCMA agents, including, but not limited to, Springworks Therapeutics, Inc. in collaboration with GlaxoSmithKline plc and Celgene Corporation, recently acquired by BMS.

Smaller or early-stage companies, including oncology-focused therapeutics companies, may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These companies may also compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites, enrolling patients in clinical trials and acquiring technologies complementary to, or necessary for, our programs.

The availability of reimbursement from government and private payors will also significantly impact the pricing and competitiveness of our products. Our competitors may obtain FDA or other regulatory approvals for their products more rapidly than we may obtain approvals for our product candidates, if any, which could result in our competitors establishing a strong market position before we are able to commercialize our product candidates.

Intellectual Property

Our success depends in part on our ability to obtain and maintain intellectual property and proprietary protection for our product candidates, manufacturing and process discoveries and other know-how, to operate without infringing, misappropriating or otherwise violating the intellectual property and proprietary rights of others, and to defend and enforce, and prevent others from infringing, misappropriating or otherwise violating, our intellectual property and proprietary rights. We take efforts to protect our proprietary position using a variety of methods, which include pursuit of U.S. and foreign patent applications related to our proprietary technology, inventions and improvements, such as compositions of matter and methods of use, that we determine are important to the development and implementation of our business. We also may rely on trade secrets,

trademarks, know-how, continuing technological innovation and potential in-licensing opportunities to develop and maintain our proprietary position. For more information regarding risks relating to intellectual property, please see "Risk Factors—Risks Related to Our Intellectual Property."

Patents and Patent Applications

The term of individual patents depends upon the legal term of patents in the countries in which they are obtained. In most countries in which we file patent applications, including the United States, the patent term is generally 20 years from the earliest date of filing a non-provisional patent application, assuming the patent has not been terminally disclaimed over a commonly-owned patent or a patent naming a common inventor, or over a patent not commonly owned but that was disqualified as prior art as the result of activities undertaken within the scope of a joint research agreement. In the United States, the term of a patent may also be eligible for patent term adjustment for delays within the United States Patent and Trademark Office, or USPTO. In addition, for patents that cover an FDA-approved drug, the Drug Price Competition and Patent Term Restoration Act of 1984, or the Hatch-Waxman Act, may permit a patent term extension of up to five years beyond the expiration of the patent. While the length of such patent term extension is related to the length of time the drug is under regulatory review, patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, only one patent per approved drug may be extended and only those claims covering the approved drug product, a method for using it or a method for manufacturing it may be extended. Similar provisions are available in Europe and certain other foreign jurisdictions to extend the term of a patent that covers an approved drug. In the future, if and when our products receive FDA approval, we expect to apply for patent term extensions on patents covering those products. We plan to seek any available patent term extension to any issued patents we may be granted in any jurisdiction where such extensions are available; however, there is no guarantee that the applicable authorities, including the FDA and the USPTO in the United States, will agree with our assessment of whether such extensions should be granted, and if granted, the length of such extensions.

As of March 1, 2020, we owned or exclusively licensed a total of five issued U.S. patents, 119 granted foreign patents, two pending U.S. patent applications, 16 pending foreign patent applications, and three pending Patent Cooperation Treaty, or PCT, applications.

In November 2017, we entered into the BMS License Agreement, pursuant to which we acquired exclusive worldwide rights under certain patents and know-how controlled by BMS to research, discover, develop, make, have made, use, sell, offer to sell, export, import and commercialize AL101 and AL102. For more information regarding the BMS License Agreement, please see "—License Agreements." As of March 1, 2020, the patent rights exclusively in-licensed under the BMS License Agreement include the following patent families:

- A patent family having claims directed to the composition of matter of AL101 and methods of treating certain types of cancer, which includes two issued U.S. patents, 62 granted patents in 62 foreign jurisdictions (including China, the European Patent Office, or EPO, Japan and the Russian Federation) and six pending patent applications in foreign jurisdictions. Without taking potential patent term extension or adjustment into account, the issued patents and any patents issued from pending applications in this family are expected to expire in 2032.
- A patent family having claims directed to the composition of matter of AL102 and methods of treating certain types of cancer, which includes two issued U.S. patents, 57 granted patents in 57 foreign jurisdictions (including China, the EPO, Japan and the Russian Federation), and 10 pending patent applications in 10 foreign jurisdictions. Without taking potential patent term extension or adjustment into account, the issued patents and any patents issued from pending applications in this family are expected to expire in 2033.
- A patent family consisting of one issued U.S. patent having claims directed to the method of use for the combination of AL101 with gemcitabine for treating cancer that is expected to expire, without taking potential patent term extension or adjustment into account, in 2034.

As of March 1, 2020, we solely owned two U.S. pending patent applications and two PCT applications. In addition, we co-owned one PCT application with BMS, covering clinical data of AL101. One of our solely-owned patent families, consisting of one pending U.S. patent application and one PCT application, includes claims directed to methods of using AL101 to treat Notch-altered ACC. Another solely-owned patent family, consisting of one U.S. patent application, includes claims directed to methods of using AL101 to treat Notch-altered TNBC. A third solely-owned patent family, consisting of one PCT application, includes claims directed to the method of use for combination treatments using AL101 and/or AL102 and other cancer drugs. Any patents issued from our owned patent applications or from patent applications claiming the priority of such patent applications are expected to expire, without taking potential patent term extension or adjustment into account, between 2039 and 2040.

Trade Secrets

We also rely upon trade secrets, know-how, confidential information and continuing technological innovation to develop and maintain our competitive position, and seek to protect and maintain the confidentiality of such items to protect aspects of our business that are not amenable to, or that we do not presently consider appropriate for, patent protection. We maintain efforts to protect such proprietary rights through a variety of methods, including confidentiality agreements, invention assignment agreements, and non-solicitation and non-compete agreements with employees, consultants, collaborators, advisors, suppliers and other parties who may have access to our confidential or proprietary information. These agreements generally provide that all confidential information developed or made known to the other party during the course of its relationship with us is to be kept confidential and not disclosed to third parties except in specific circumstances. Where applicable, the agreements provide that all inventions to which the other party contributed as an inventor shall be assigned to us, and as such, will become our property. There can be no assurance, however, that these agreements will be self-executing or otherwise provide meaningful protection or adequate remedies for our trade secrets or other proprietary information, including in the event of unauthorized use or disclosure of such information. We also seek to preserve the integrity and confidentiality of our trade secrets and other confidential information by maintaining physical security of our premises and physical and electronic security of our information technology systems. While we have confidence in the measures we take to protect and preserve our trade secrets, such measures can be breached, and we may not have adequate remedies for any such breach. In addition, our trade secrets may otherwise become known or be independently discovered by competitors. For more information regarding risks relating to trade secrets, third parties and other factors that could affect our intellectual property rights, please see “Risk Factors—Risks Related to Our Intellectual Property.”

Government Regulation

Government authorities in the United States, at the federal, state and local level, and other countries extensively regulate, among other things, the research, development, testing, manufacture, quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, marketing and export and import of products such as those we are developing. A new drug must be approved by the FDA through the new drug application, or NDA, process before it may be legally marketed in the United States.

U.S. Drug Development Process

In the United States, the FDA regulates drugs under the federal Food, Drug, and Cosmetic Act, or the FDCA, and its implementing regulations. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources. Failure to comply with the applicable U.S. requirements at any time during the product development process, approval process or after approval may subject an applicant to administrative or judicial sanctions. These sanctions could include the FDA’s refusal to approve pending applications, withdrawal of an approval, a clinical hold, warning letters, product recalls, product seizures, total or

partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement or civil or criminal penalties. Any agency or judicial enforcement action could have a material adverse effect on us.

The process required by the FDA before a drug may be marketed in the United States generally involves the following:

- completion of preclinical laboratory tests, animal studies and formulation studies in accordance with FDA's good laboratory practice requirements and other applicable regulations;
- submission to the FDA of an investigational new drug application, or IND, which must become effective before human clinical trials may begin;
- approval by an independent institutional review board, or IRB, or ethics committee at each clinical site before each trial may be initiated;
- performance of adequate and well-controlled human clinical trials in accordance with good clinical practice requirements, or GCPs to establish the safety and efficacy of the proposed drug for its intended use;
- submission to the FDA of an NDA after completion of all pivotal trials;
- satisfactory completion of an FDA advisory committee review, if applicable;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the drug is produced to assess compliance with cGMP requirements to assure that the facilities, methods and controls are adequate to preserve the drug's identity, strength, quality and purity, and of selected clinical investigation sites to assess compliance with GCPs; and
- FDA review and approval of the NDA to permit commercial marketing of the product for particular indications for use in the United States.

Prior to beginning the first clinical trial with a product candidate in the United States, we must submit an IND to the FDA. An IND is a request for authorization from the FDA to administer an investigational new drug product to humans. The central focus of an IND submission is on the general investigational plan and the protocol(s) for clinical studies. The IND also includes results of animal and *in vitro* studies assessing the toxicology, pharmacokinetics, pharmacology, and pharmacodynamics characteristics of the product; chemistry, manufacturing, and controls information; and any available human data or literature to support the use of the investigational product. An IND must become effective before human clinical trials may begin. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30-day time period, raises safety concerns or questions about the proposed clinical trial. In such a case, the IND may be placed on clinical hold and the IND sponsor and the FDA must resolve any outstanding concerns or questions before the clinical trial can begin. Submission of an IND therefore may or may not result in FDA authorization to begin a clinical trial.

Clinical trials involve the administration of the investigational product to human subjects under the supervision of qualified investigators in accordance with GCPs, which include the requirement that all research subjects provide their informed consent for their participation in any clinical study. Clinical trials are conducted under protocols detailing, among other things, the objectives of the study, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated. A separate submission to the existing IND must be made for each successive clinical trial conducted during product development and for any subsequent protocol amendments. Furthermore, an independent IRB for each site proposing to conduct the clinical trial must review and approve the plan for any clinical trial and its informed consent form before the clinical trial begins at that site and must monitor the study until completed. Regulatory authorities, the IRB or the sponsor may suspend a clinical trial at any time on various grounds, including a finding that the subjects are being exposed to an unacceptable health risk or that the trial is unlikely to meet its stated objectives. Some studies also include oversight by an independent group of qualified experts organized by the clinical study sponsor, known as a data

safety monitoring board, which provides authorization for whether or not a study may move forward at designated check points based on access to certain data from the study and may halt the clinical trial if it determines that there is an unacceptable safety risk for subjects or other grounds, such as no demonstration of efficacy. There are also requirements governing the reporting of ongoing clinical studies and clinical study results to public registries.

Human clinical trials are typically conducted in three sequential phases that may overlap or be combined:

- *Phase 1:* The product candidate is initially introduced into healthy human subjects or patients with the target disease or condition. These studies are designed to test the safety, dosage tolerance, absorption, metabolism and distribution of the investigational product in humans, the side effects associated with increasing doses, and, if possible, to gain early evidence on effectiveness. In the case of some products for severe or life-threatening diseases, such as cancer, especially when the product may be too inherently toxic to ethically administer to healthy volunteers, the initial human testing is often conducted in patients.
- *Phase 2:* The product candidate is administered to a limited patient population with a specified disease or condition to evaluate the preliminary efficacy, optimal dosages and dosing schedule and to identify possible adverse side effects and safety risks. Multiple Phase 2 clinical trials may be conducted to obtain information prior to beginning larger and more expensive Phase 3 clinical trials.
- *Phase 3:* The product candidate is administered to an expanded patient population to further evaluate dosage, to provide statistically significant evidence of clinical efficacy and to further test for safety, generally at multiple geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk/benefit ratio of the investigational product and to provide an adequate basis for product approval.

Post-approval trials, sometimes referred to as Phase 4 studies, may be conducted after initial marketing approval. These trials are used to gain additional experience from the treatment of patients in the intended therapeutic indication. In certain instances, the FDA may mandate the performance of Phase 4 clinical trials as a condition of approval of an NDA.

The FDA or the sponsor may suspend a clinical trial at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug has been associated with unexpected serious harm to patients. In addition, some clinical trials are overseen by an independent group of qualified experts organized by the sponsor, known as a data safety monitoring board or committee. Depending on its charter, this group may determine whether a trial may move forward at designated check points based on access to certain data from the trial.

During the development of a new drug, sponsors are given opportunities to meet with the FDA at certain points. These points may be prior to submission of an IND, at the end of Phase 2, and before an NDA is submitted. Meetings at other times may be requested. These meetings can provide an opportunity for the sponsor to share information about the data gathered to date, for the FDA to provide advice, and for the sponsor and the FDA to reach agreement on the next phase of development. Sponsors typically use the meetings at the end of the Phase 2 trial to discuss Phase 2 clinical results and present plans for the pivotal Phase 3 clinical trials that they believe will support approval of the new drug.

Concurrent with clinical trials, companies usually complete additional animal studies and must also develop additional information about the chemistry and physical characteristics of the drug and finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, the manufacturer must develop methods for testing the identity, strength, quality and purity of the final drug. In addition, appropriate packaging must be selected and tested, and stability studies must be conducted to demonstrate that the product candidate does not undergo unacceptable deterioration over its shelf life.

While the IND is active and before approval, progress reports summarizing the results of the clinical trials and nonclinical studies performed since the last progress report must be submitted at least annually to the FDA, and written IND safety reports must be submitted to the FDA and investigators for serious and unexpected suspected adverse events, findings from other studies suggesting a significant risk to humans exposed to the same or similar drugs, findings from animal or *in vitro* testing suggesting a significant risk to humans, and any clinically important increased incidence of a serious suspected adverse reaction compared to that listed in the protocol or investigator brochure.

U.S. Review and Approval Process

Assuming successful completion of all required testing in accordance with all applicable regulatory requirements, the results of product development, preclinical and other non-clinical studies and clinical trials, along with descriptions of the manufacturing process, analytical tests conducted on the chemistry of the drug, proposed labeling and other relevant information are submitted to the FDA as part of an NDA requesting approval to market the product. The submission of an NDA is subject to the payment of substantial user fees; a waiver of such fees may be obtained under certain limited circumstances. Additionally, no user fees are assessed on NDAs for products designated as orphan drugs, unless the product also includes a non-orphan indication. The FDA reviews an NDA to determine, among other things, whether a product is safe and effective for its intended use and whether its manufacturing is cGMP-compliant to assure and preserve the product's identity, strength, quality and purity. Under the Prescription Drug User Fee Act, or PDUFA, guidelines that are currently in effect, the FDA has a goal of ten months from the date of "filing" of a standard NDA for a new molecular entity to review and act on the submission. This review typically takes twelve months from the date the NDA is submitted to FDA because the FDA has approximately two months to make a "filing" decision after it the application is submitted. The FDA conducts a preliminary review of all NDAs within the first 60 days after submission, before accepting them for filing, to determine whether they are sufficiently complete to permit substantive review The FDA may request additional information rather than accept an NDA for filing. In this event, the NDA must be resubmitted with the additional information. The resubmitted application also is subject to review before the FDA accepts it for filing.

The FDA may refer an application for a novel drug to an advisory committee. An advisory committee is a panel of independent experts, including clinicians and other scientific experts, that reviews, evaluates and provides a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Before approving an NDA, the FDA will typically inspect the facility or facilities where the product is manufactured. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP and adequate to assure consistent production of the product within required specifications. Additionally, before approving a NDA, the FDA will typically inspect one or more clinical sites to assure compliance with GCPs. If the FDA determines that the application, manufacturing process or manufacturing facilities are not acceptable, it will outline the deficiencies in the submission and often will request additional testing or information. Notwithstanding the submission of any requested additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval.

After the FDA evaluates an NDA, it will issue an approval letter or a Complete Response Letter. An approval letter authorizes commercial marketing of the drug with prescribing information for specific indications. A Complete Response Letter indicates that the review cycle of the application is complete, and the application will not be approved in its present form. A Complete Response Letter usually describes the specific deficiencies in the NDA identified by the FDA and may require additional clinical data, such as an additional pivotal Phase 3 trial or other significant and time-consuming requirements related to clinical trials, nonclinical studies or manufacturing. If a Complete Response Letter is issued, the sponsor must resubmit the NDA or, addressing all of

the deficiencies identified in the letter, or withdraw the application. Even if such data and information are submitted, the FDA may decide that the NDA does not satisfy the criteria for approval.

If regulatory approval of a product is granted, such approval will be granted for particular indications and may entail limitations on the indicated uses for which such product may be marketed. For example, the FDA may approve the NDA with a Risk Evaluation and Mitigation Strategy, or REMS, to ensure the benefits of the product outweigh its risks. A REMS is a safety strategy to manage a known or potential serious risk associated with a medicine and to enable patients to have continued access to such medicines by managing their safe use, and could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries, and other risk minimization tools. The FDA also may condition approval on, among other things, changes to proposed labeling or the development of adequate controls and specifications. Once approved, the FDA may withdraw the product approval if compliance with pre- and post-marketing requirements is not maintained or if problems occur after the product reaches the marketplace. The FDA may also require one or more Phase 4 post-market studies and surveillance to further assess and monitor the product's safety and effectiveness after commercialization, and may limit further marketing of the product based on the results of these post-marketing studies. In addition, new government requirements, including those resulting from new legislation, may be established, or the FDA's policies may change, which could impact the timeline for regulatory approval or otherwise impact ongoing development programs.

In addition, the Pediatric Research Equity Act, or PREA, requires a sponsor to conduct pediatric clinical trials for most drugs, for a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration. Under PREA, original NDAs and supplements must contain a pediatric assessment unless the sponsor has received a deferral or waiver. The required assessment must evaluate the safety and effectiveness of the product for the claimed indications in all relevant pediatric subpopulations and support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The sponsor or FDA may request a deferral of pediatric clinical trials for some or all of the pediatric subpopulations. A deferral may be granted for several reasons, including a finding that the drug is ready for approval for use in adults before pediatric clinical trials are complete or that additional safety or effectiveness data need to be collected before the pediatric clinical trials begin. The FDA must send a non-compliance letter to any sponsor that fails to submit the required assessment, keep a deferral current or fails to submit a request for approval of a pediatric formulation.

Orphan Drug Designation

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug intended to treat a rare disease or condition, which is a disease or condition that affects fewer than 200,000 individuals in the United States or, if it affects more than 200,000 individuals in the United States, there is no reasonable expectation that the cost of developing and making a drug product available in the United States for this type of disease or condition will be recovered from sales of the product. Orphan designation must be requested before submitting an NDA. After the FDA grants orphan designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. Orphan designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

If a product that has orphan designation subsequently receives the first FDA approval for the disease or condition for which it has such designation, the product is entitled to orphan product exclusivity, which means that the FDA may not approve any other applications to market the same drug for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan exclusivity or inability to manufacture the product in sufficient quantities. The designation of such drug also entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and user-fee waivers. However, competitors, may receive approval of different products for the indication for which the orphan product has exclusivity or obtain approval for the same product but for a different indication for which the orphan product has exclusivity. Orphan exclusivity also could block the

approval of one of our product candidates for seven years if a competitor obtains approval of the same drug as defined by the FDA or if our product candidate is determined to be contained within the competitor's product for the same indication or disease. In addition, if an orphan designated product receives marketing approval for an indication broader than what is designated, it may not be entitled to orphan exclusivity.

Expedited Development and Review Programs

The FDA has a fast track designation program that is intended to expedite or facilitate the process for reviewing new drug products that meet certain criteria. Specifically, new drugs are eligible for Fast Track designation if they are intended to treat a serious or life-threatening disease or condition and demonstrate the potential to address unmet medical needs for the disease or condition. With regard to a fast track product, the FDA may consider for review sections of the NDA on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the NDA, the FDA agrees to accept sections of the NDA and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the NDA.

Any product submitted to the FDA for approval, including a product with a fast track designation, may also be eligible for other types of FDA programs intended to expedite development and review, such as priority review and accelerated approval. A product is eligible for priority review if it has the potential to provide safe and effective therapy where no satisfactory alternative therapy exists or a significant improvement in the treatment, diagnosis or prevention of a disease compared to marketed products. The FDA will attempt to direct additional resources to the evaluation of an application for a new drug designated for priority review in an effort to facilitate the review. The FDA endeavors to review applications with priority review designations within six months of the filing date as compared to ten months for review of new molecular entity NDAs under its current PDUFA review goals.

In addition, a product may be eligible for accelerated approval. Drug products intended to treat serious or life-threatening diseases or conditions may be eligible for accelerated approval upon a determination that the product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. As a condition of approval, the FDA may require that a sponsor of a drug receiving accelerated approval perform adequate and well-controlled post-marketing clinical trials. In addition, the FDA currently requires pre-approval of promotional materials as a condition for accelerated approval, which could adversely impact the timing of the commercial launch of the product.

The Food and Drug Administration Safety and Innovation Act established a category of drugs referred to as "breakthrough therapies" that may be eligible to receive breakthrough therapy designation. A sponsor may seek FDA designation of a product candidate as a "breakthrough therapy" if the product is intended, alone or in combination with one or more other products, to treat a serious or life-threatening disease or condition and preliminary clinical evidence indicates that the product may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The designation includes all of the fast track program features, as well as more intensive FDA interaction and guidance. The breakthrough therapy designation is a distinct status from both accelerated approval and priority review, which can also be granted to the same drug if relevant criteria are met. If a product is designated as breakthrough therapy, the FDA will work to expedite the development and review of such drug.

Fast track designation, breakthrough therapy designation, priority review and accelerated approval do not change the standards for approval but may expedite the development or approval process. Even if a product qualifies for one or more of these programs, the FDA may later decide that the product no longer meets the conditions for qualification or decide that the time period for FDA review or approval will not be shortened. We may explore some of these opportunities for our product candidates as appropriate.

Post-Approval Requirements

Any products manufactured or distributed by us pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to record-keeping, reporting of adverse experiences, periodic reporting, product sampling and distribution, and advertising and promotion of the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims, are subject to prior FDA review and approval. There also are continuing, annual program fees for any marketed products. Drug manufacturers and their subcontractors are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMP, which impose certain procedural and documentation requirements upon us and our third-party manufacturers. Changes to the manufacturing process are strictly regulated, and, depending on the significance of the change, may require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting requirements upon us and any third-party manufacturers that we may decide to use. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain compliance with cGMP and other aspects of regulatory compliance.

The FDA may withdraw approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical studies to assess new safety risks; or imposition of distribution restrictions or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market or product recalls;
- fines, warning letters, or untitled letters;
- clinical holds on clinical studies;
- refusal of the FDA to approve pending applications or supplements to approved applications, or suspension or revocation of product license approvals;
- product seizure or detention, or refusal to permit the import or export of products;
- consent decrees, corporate integrity agreements, debarment or exclusion from federal healthcare programs;
- mandated modification of promotional materials and labeling and the issuance of corrective information;
- the issuance of safety alerts, Dear Healthcare Provider letters, press releases and other communications containing warnings or other safety information about the product; or
- injunctions or the imposition of civil or criminal penalties.

The FDA closely regulates the marketing, labeling, advertising and promotion of drug products. A company can make only those claims relating to safety and efficacy, purity and potency that are approved by the FDA and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses. Failure to comply with these requirements can result in, among other things, adverse publicity, warning letters, corrective advertising and potential civil and criminal penalties. Physicians may prescribe legally available products for uses that are not described in the product's labeling and that differ from those tested by us and approved by the FDA. Such off-label uses are common across medical specialties. Physicians may believe that such off-label uses are the best treatment for many patients in varied circumstances. The FDA does not regulate the behavior of physicians in their choice of treatments. The FDA does, however, restrict manufacturer's communications on the subject of off-label use of their products.

Marketing Exclusivity

Market exclusivity provisions authorized under the FDCA can delay the submission or the approval of certain marketing applications. The FDCA provides a five-year period of non-patent marketing exclusivity within the United States to the first applicant to obtain approval of an NDA for a new chemical entity. A drug is a new chemical entity if the FDA has not previously approved any other new drug containing the same active moiety, which is the molecule or ion responsible for the action of the drug substance. During the exclusivity period, the FDA may not approve or even accept for review an abbreviated new drug application, or ANDA, or an NDA submitted under Section 505(b)(2), or 505(b)(2) NDA, submitted by another company for another drug based on the same active moiety, regardless of whether the drug is intended for the same indication as the original innovative drug or for another indication, where the applicant does not own or have a legal right of reference to all the data required for approval. However, an application may be submitted after four years if it contains a certification of patent invalidity or non-infringement to one of the patents listed with the FDA by the innovator NDA holder.

The FDCA alternatively provides three years of marketing exclusivity for an NDA, or supplement to an existing NDA if new clinical investigations, other than bioavailability studies, that were conducted or sponsored by the applicant are deemed by the FDA to be essential to the approval of the application, for example new indications, dosages or strengths of an existing drug. This three-year exclusivity covers only the modification for which the drug received approval on the basis of the new clinical investigations and does not prohibit the FDA from approving ANDAs or 505(b)(2) NDAs for drugs containing the active agent for the original indication or condition of use. Five-year and three-year exclusivity will not delay the submission or approval of a full NDA. However, an applicant submitting a full NDA would be required to conduct or obtain a right of reference to any preclinical studies and adequate and well-controlled clinical trials necessary to demonstrate safety and effectiveness.

Pediatric exclusivity is another type of marketing exclusivity available in the United States. Pediatric exclusivity provides for an additional six months of marketing exclusivity attached to another period of exclusivity if a sponsor conducts clinical trials in children in response to a written request from the FDA. The issuance of a written request does not require the sponsor to undertake the described clinical trials. In addition, orphan drug exclusivity, as described above, may offer a seven-year period of marketing exclusivity, except in certain circumstances.

FDA Regulation of Companion Diagnostics

We expect that certain of our product candidates may require an *in vitro* diagnostic to identify appropriate patient populations for our product candidates. These diagnostics, often referred to as companion diagnostics, are regulated as medical devices. In the United States, the FDCA and its implementing regulations, and other federal and state statutes and regulations govern, among other things, medical device design and development, preclinical and clinical testing, premarket clearance or approval, registration and listing, manufacturing, labeling, storage, advertising and promotion, sales and distribution, export and import, and post-market surveillance. Unless an exemption applies, diagnostic tests require marketing clearance or approval from the FDA prior to commercial distribution. The two primary types of FDA marketing authorization applicable to a medical device are premarket notification, also called 510(k) clearance, and premarket approval, or PMA approval. We expect that any companion diagnostic developed for our product candidates will utilize the PMA pathway.

If use of companion diagnostic is essential to safe and effective use of a drug or biologic product, then the FDA generally will require approval or clearance of the diagnostic contemporaneously with the approval of the therapeutic product. On August 6, 2014, the FDA issued a final guidance document addressing the development and approval process for "*In Vitro* Companion Diagnostic Devices." According to the guidance, for novel product candidates, a companion diagnostic device and its corresponding drug candidate should be approved or cleared contemporaneously by FDA for the use indicated in the therapeutic product labeling. The guidance also

explains that a companion diagnostic device used to make treatment decisions in clinical trials of a drug generally will be considered an investigational device, unless it is employed for an intended use for which the device is already approved or cleared. If used to make critical treatment decisions, such as patient selection, the diagnostic device generally will be considered a significant risk device under the FDA's Investigational Device Exemption, or IDE, regulations. Thus, the sponsor of the diagnostic device will be required to comply with the IDE regulations. According to the guidance, if a diagnostic device and a drug are to be studied together to support their respective approvals, both products can be studied in the same investigational study, if the study meets both the requirements of the IDE regulations and the IND regulations. The guidance provides that depending on the details of the study plan and subjects, a sponsor may seek to submit an IND alone, or both an IND and an IDE.

The FDA has generally required companion diagnostics intended to select the patients who will respond to cancer treatment to obtain approval of a PMA for that diagnostic simultaneously with approval of the therapeutic. The PMA process, including the gathering of clinical and preclinical data and the submission to and review by the FDA, can take several years or longer. It involves a rigorous premarket review during which the applicant must prepare and provide the FDA with reasonable assurance of the device's safety and effectiveness and information about the device and its components regarding, among other things, device design, manufacturing and labeling. In addition, PMAs for certain devices must generally include the results from extensive preclinical and adequate and well-controlled clinical trials to establish the safety and effectiveness of the device for each indication for which FDA approval is sought. In particular, for a diagnostic, the applicant must demonstrate that the diagnostic produces reproducible results when the same sample is tested multiple times by multiple users at multiple laboratories. As part of the PMA review, the FDA will typically inspect the manufacturer's facilities for compliance with the Quality System Regulation, or QSR, which imposes elaborate testing, control, documentation and other quality assurance requirements.

If the FDA evaluations of both the PMA application and the manufacturing facilities are favorable, the FDA will either issue an approval letter or an approvable letter, which usually contains a number of conditions that must be met in order to secure the final approval of the PMA, such as changes in labeling, or specific additional information, such as submission of final labeling, in order to secure final approval of the PMA. If the FDA concludes that the applicable criteria have been met, the FDA will issue a PMA for the approved indications, which can be more limited than those originally sought by the applicant. The PMA can include post-approval conditions that the FDA believes necessary to ensure the safety and effectiveness of the device, including, among other things, restrictions on labeling, promotion, sale and distribution.

If the FDA's evaluation of the PMA or manufacturing facilities is not favorable, the FDA will deny approval of the PMA or issue a not approvable letter. A not approvable letter will outline the deficiencies in the application and, where practical, will identify what is necessary to make the PMA approvable. The FDA may also determine that additional clinical trials are necessary, in which case the PMA approval may be delayed for several months or years while the trials are conducted and then the data submitted in an amendment to the PMA. Once granted, PMA approval may be withdrawn by the FDA if compliance with post approval requirements, conditions of approval or other regulatory standards is not maintained or problems are identified following initial marketing. PMA approval is not guaranteed, and the FDA may ultimately respond to a PMA submission with a not approvable determination based on deficiencies in the application and require additional clinical trial or other data that may be expensive and time-consuming to generate and that can substantially delay approval.

After a device is placed on the market, it remains subject to significant regulatory requirements. Medical devices may be marketed only for the uses and indications for which they are cleared or approved. Device manufacturers must also establish registration and device listings with the FDA. A medical device manufacturer's manufacturing processes and those of its suppliers are required to comply with the applicable portions of the QSR, which cover the methods and documentation of the design, testing, production, processes, controls, quality assurance, labeling, packaging and shipping of medical devices. Domestic facility records and manufacturing processes are subject to periodic unscheduled inspections by the FDA. The FDA also may inspect foreign facilities that export products to the United States.

Other Healthcare Laws

Pharmaceutical companies are subject to additional healthcare regulation and enforcement by the federal government and by authorities in the states and foreign jurisdictions in which they conduct their business. Such laws include, without limitation, U.S. federal and state anti-kickback, fraud and abuse, false claims, consumer fraud, pricing reporting, data privacy and security, and transparency laws and regulations as well as similar foreign laws in jurisdictions outside the U.S. For example, the federal Anti-Kickback Statute prohibits, among other things, individuals or entities from knowingly and willfully offering, paying, soliciting or receiving remuneration, directly or indirectly, overtly or covertly, in cash or in kind to induce or in return for purchasing, leasing, ordering or arranging for or recommending the purchase, lease or order of any item or service reimbursable under Medicare, Medicaid or other federal healthcare programs. A person or entity does not need to have actual knowledge of this statute or specific intent to violate it in order to have committed a violation. In addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the civil False Claims Act and the civil monetary penalties statute. The federal civil and criminal false claims laws, including the civil False Claims Act, prohibit, among other things, any individual or entity from knowingly presenting, or causing to be presented, a false claim for payment to the federal government or knowingly making, using or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government. The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, created additional federal civil and criminal statutes that prohibit, among other things, knowingly and willfully executing a scheme to defraud any healthcare benefit program. Similar to the U.S. federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the healthcare fraud statute implemented under HIPAA or specific intent to violate it in order to have committed a violation. The federal Physician Payments Sunshine Act requires certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, to report annually to CMS information related to payments or other transfers of value made to physicians, certain other healthcare professionals, teaching hospitals, and applicable manufacturers and group purchasing organizations as well as ownership and investment interests held by physicians and their immediate family members. Additional reporting and transparency requirements for payments to physician assistants, nurse practitioners, clinical nurse specialists, certified registered nurse anesthetists, and certified nurse midwives go into effect in 2022 for payments made in 2021.

Similar state and local laws and regulations may also restrict business practices in the pharmaceutical industry, such as state anti-kickback and false claims laws, which may apply to business practices, including but not limited to, research, distribution, sales and marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, or by patients themselves; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government, or otherwise restrict payments that may be made to healthcare providers and other potential referral sources; state laws and regulations that require drug manufacturers to file reports relating to pricing and marketing information or which require tracking gifts and other remuneration and items of value provided to physicians, other healthcare providers and entities; state and local laws that require the registration of pharmaceutical sales representatives; and state and local laws governing the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts. Violation of any of such laws or any other governmental regulations that apply may result in penalties, including, without limitation, civil and criminal penalties, damages, fines, additional reporting obligation, the curtailment or restructuring of operations, exclusion from participation in governmental healthcare programs and individual imprisonment.

Data Privacy and Security Laws

Pharmaceutical companies may be subject to U.S. federal and state health information privacy, security and data breach notification laws, which may govern the collection, use, disclosure and protection of health-related

and other personal information. State laws may be more stringent, broader in scope or offer greater individual rights with respect to protected health information, or PHI, than HIPAA and state laws may differ from each other, which may complicate compliance efforts. Entities that are found to be in violation of HIPAA as the result of a breach of unsecured PHI, a complaint about privacy practices or an audit by the Department of Health and Human Services, or HHS, may be subject to significant civil, criminal and administrative fines and penalties and/ or additional reporting and oversight obligations if required to enter into a resolution agreement and corrective action plan with HHS to settle allegations of HIPAA non-compliance. In addition, California enacted the California Consumer Privacy Act, or CCPA, which creates individual privacy rights for California consumers and increases the privacy and security obligations of entities handling certain personal data. The CCPA came into effect on January 1, 2020, and the California Attorney General may bring enforcement actions for violations beginning July 1, 2020. The CCPA has been amended from time to time, and it remains unclear what, if any, further modifications will be made to this legislation or how it will be interpreted.

European Union member states, the United Kingdom, Switzerland and other jurisdictions have also adopted data protection laws and regulations, which impose significant compliance obligations. In the European Economic Area, or the EEA, and the United Kingdom, the collection and use of personal data, including clinical trial data, is governed by the provisions of the General Data Protection Regulation, or the GDPR. The GDPR became effective on May 25, 2018, repealing its predecessor directive and increasing responsibility and liability of companies in relation to the processing of personal data of EU data subjects. The GDPR, together with national legislation, regulations and guidelines of the EU member states and the United Kingdom governing the processing of personal data, impose strict obligations and restrictions on the ability to collect, analyze, store, transfer and otherwise process personal data, including health data from clinical trials and adverse event reporting. In particular, the GDPR includes obligations and restrictions concerning the consent of the individuals to whom the personal data relates, the information provided to such individuals, the transfer of personal data out of the EEA or the United Kingdom, security breach notifications, security and confidentiality of the personal data and imposition of substantial potential fines for breaches of the data protection obligations. European data protection authorities may interpret the GDPR and national laws differently and impose additional requirements, which adds to the complexity of processing personal data in or from the EEA or United Kingdom. Guidance on implementation and compliance practices are often updated or otherwise revised.

Coverage and Reimbursement

Sales of any pharmaceutical product depend, in part, on the extent to which such product will be covered by third-party payors, such as federal, state and foreign government healthcare programs, commercial insurance and managed healthcare organizations, and the level of reimbursement for such product by third-party payors. Significant uncertainty exists as to the coverage and reimbursement status of any newly approved product. Decisions regarding the extent of coverage and amount of reimbursement to be provided are made on a plan-by-plan basis. One third-party payor's decision to cover a particular product does not ensure that other payors will also provide coverage for the product. As a result, the coverage determination process can require manufacturers to provide scientific and clinical support for the use of a product to each payor separately and can be a time-consuming process, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance.

In addition, third-party payors are increasingly reducing reimbursements for pharmaceutical products and services. The U.S. government and state legislatures have continued implementing cost-containment programs, including price controls, restrictions on coverage and reimbursement and requirements for substitution of generic products. Third-party payors are more and more challenging the prices charged, examining the medical necessity and reviewing the cost effectiveness of pharmaceutical products, in addition to questioning their safety and efficacy. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit sales of any product. Decreases in third-party reimbursement for any product or a decision by a third-party payor not to cover a product could reduce physician usage and patient demand for the product.

In international markets, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings on specific products and therapies. For example, the European Union provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. A member state may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. Pharmaceutical products may face competition from lower-priced products in foreign countries that have placed price controls on pharmaceutical products and may also compete with imported foreign products. Furthermore, there is no assurance that a product will be considered medically reasonable and necessary for a specific indication, will be considered cost-effective by third-party payors, that an adequate level of reimbursement will be established even if coverage is available or that the third-party payors' reimbursement policies will not adversely affect the ability for manufacturers to sell products profitably.

Healthcare Reform

In the United States and certain foreign jurisdictions, there have been, and we expect there will continue to be, a number of legislative and regulatory changes to the healthcare system. In March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively, the ACA, was signed into law, which substantially changed the way healthcare is financed by both governmental and private insurers in the United States. The ACA contains a number of provisions, including those governing enrollment in federal healthcare programs, reimbursement adjustments and fraud and abuse changes. Additionally, the ACA increased the minimum level of Medicaid rebates payable by manufacturers of brand name drugs from 15.1% to 23.1%; required collection of rebates for drugs paid by Medicaid managed care organizations; imposed a non-deductible annual fee on pharmaceutical manufacturers or importers who sell certain "branded prescription drugs" to specified federal government programs; expanded eligibility criteria for Medicaid programs; created a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research; and established a Center for Medicare Innovation at CMS to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending.

Since its enactment, there have been judicial and Congressional challenges to certain aspects of the ACA, and we expect there will be additional challenges and amendments to the ACA in the future. For example, in 2017, Congress enacted the Tax Cuts and Jobs Act, which eliminated the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate." On December 14, 2018, a U.S. District Court Judge in the Northern District of Texas, or the Texas District Court Judge, ruled that the individual mandate is a critical and inseverable feature of the ACA, and therefore, because it was repealed as part of the Tax Cuts and Jobs Act, the remaining provisions of the ACA are invalid as well. While the Texas U.S. District Court Judge, as well as the Trump Administration and CMS, have stated that the ruling will have no immediate effect, and on December 30, 2018 the Texas District Court Judge issued an order staying the judgment pending appeal on December 18, 2019, the U.S. Court of Appeals for the Fifth Circuit upheld the District Court ruling that the individual mandate was unconstitutional and remanded the case back to the District Court to determine whether the remaining provisions of the ACA are invalid as well. On March 2, 2020, the Supreme Court of the United States granted the petitions for writ of certiorari to review this case and has allotted one hour for oral arguments, which are expected to occur in the fall. It is unclear how this litigation, subsequent appeals, and other efforts to repeal and replace the ACA will impact the ACA.

Other legislative changes have been proposed and adopted since the ACA was enacted, including aggregate reductions of Medicare payments to providers of 2% per fiscal year and reduced payments to several types of Medicare providers, which will remain in effect through 2030 absent additional congressional action. Moreover, there has recently been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed and enacted

legislation designed, among other things, to bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs and reform government program reimbursement methodologies for pharmaceutical products. Individual states in the United States have also become increasingly active in implementing regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures and, in some cases, mechanisms to encourage importation from other countries and bulk purchasing. Furthermore, there has been increased interest by third-party payors and governmental authorities in reference pricing systems and publication of discounts and list prices.

Employees

As of December 31, 2019, we had 29 employees, including 10 employees with M.D. or Ph.D. degrees. Of these employees, 17 employees are engaged in research and development activities. None of our employees is represented by a labor union or covered by a collective bargaining agreement.

Facilities

Our principal office is located at Oppenheimer 4, Rehovot 7670104, Israel, where we lease approximately 15,000 square feet of office and laboratory space under a lease agreement that terminates in 2029. We believe that our facilities are sufficient to meet our current needs and that suitable additional space will be available as and when needed.

Legal Proceedings

We are not subject to any material legal proceedings.

MANAGEMENT

Executive Officers and Directors

The following table sets forth the name, age and position of each of our executive officers and directors as of the date of this prospectus.

Name	Age	Position
Executive Officers		
Roni Mamluk, Ph.D.	53	Chief Executive Officer and Director
Yossi Maimon, CPA, M.B.A.	50	Chief Financial Officer
Gary Gordon, M.D., Ph.D.	68	Chief Medical Officer
Directors		
David Sidransky, M.D.(2)(3)	59	Chairman of the Board of Directors
Robert Spiegel, M.D., FACP(1)(2)	70	Director
Murray A. Goldberg(1)(3)	75	Director
Todd Sone(1)(2)(3)	49	Director
Guy Harmelin, M.D.(4)	41	Director

(1) Member of the audit committee.
(2) Member of the compensation committee.
(3) Member of the nominating and corporate governance committee.
(4) Dr. Harmelin is expected to resign from our board of directors effective immediately prior to the effectiveness of the registration statement of which this prospectus forms a part.

Executive Officers

Roni Mamluk, Ph.D. has served as our Chief Executive Officer and a member of our board of directors since November 2017. Prior to joining us, Dr. Mamluk held various management positions at Chiasma, Inc., a biopharmaceutical company, including as Chief Executive Officer from April 2013 to March 2015 and has served as a member of its board of directors since June 2017. Prior to her time at Chiasma, Dr. Mamluk was the head of preclinical development of an oncology product at Adnexus Therapeutics Inc., a biopharmaceutical company, from April 2004 to June 2006. Dr. Mamluk received a B.Sc. in Animal Sciences from Hebrew University of Jerusalem and a Ph.D. in Biology of Reproduction from the Hebrew University of Jerusalem, where she graduated summa cum laude. Dr. Mamluk also held a postdoctoral fellowship in angiogenesis at Harvard Medical School. We believe that Dr. Mamluk's extensive scientific knowledge, experience with our company and experience serving on a public company board of directors qualifies her to serve on our board of directors.

Yossi Maimon, CPA, M.B.A. has served as our Chief Financial Officer since March 2019. Prior to joining us, Mr. Maimon served as Chief Financial Officer at Protalix BioTherapeutics Inc., a biopharmaceutical company, from October 2006 to July 2019. Prior to his time at Protalix, Mr. Maimon served as Chief Financial Officer of ColBar LifeScience Ltd., a medical device company, from 2002 to 2006. Mr. Maimon received a B.A. in Accounting from the City University of New York and an M.B.A. from Tel Aviv University. Mr. Maimon is licensed as a Certified Public Accountant in New York and Israel.

Gary Gordon, M.D., Ph.D. has served as our Chief Medical Officer since August 2019. Prior to joining us, Dr. Gordon served as Vice President of Oncology Development at AbbVie Inc., a biopharmaceutical company, from January 2013 to April 2018. Prior to his time at AbbVie, Dr. Gordon served as Divisional Vice President of Global Oncology Development at Abbott Laboratories, a medical device company, from April 2003 to December 2012. Prior to his time at Abbott, Dr. Gordon served as Chief Scientific Officer and Vice President of Clinical Affairs at Ovation Pharmaceuticals Inc., a biopharmaceutical company, from May 2001 to April 2003. Dr. Gordon received a B.S. in Biochemistry from the State University of New York at Stony Brook and a Ph.D. in Pharmacology and an M.D. from Johns Hopkins University School of Medicine.

Non-Employee Directors

David Sidransky, M.D. has served as the chairman of our board of directors since November 2017. Since July 1994, Dr. Sidransky has been the Director of the Head and Neck Cancer Research Division at Johns Hopkins University School of Medicine's Department of Otolaryngology and Professor of Oncology, Cellular & Molecular Medicine, Urology, Genetics, and Pathology at the John Hopkins University School of Medicine. Dr. Sidransky currently serves on the board of directors of Galmed Pharmaceuticals Ltd., a biopharmaceutical company, Rosetta Genomics Ltd., a molecular diagnostics company, Biond Biologics Ltd., a biotechnology company, Tamir Biotechnology Ltd., a biotechnology company, Orgenesis Inc., a pharmaceutical manufacturing company, and is the chairman of the board of directors of Advaxis, Inc., a biotechnology company and Champions Oncology, Inc., a biopharmaceutical company. Previously, Dr. Sidransky served on the board of directors of Akari Therapeutics plc. In addition, Dr. Sidransky served as Director of the American Association for Cancer Research (AACR) from 2005 to 2008. Dr. Sidransky received a B.S. in Chemistry from Brandeis University and an M.D. from Baylor College of Medicine where he also completed his residency in Internal Medicine. We believe that Dr. Sidransky's pioneering academic work, extensive medical and scientific knowledge and experience serving on public company boards of directors qualify him to serve on our board of directors.

Robert Spiegel, M.D., FACP has served as a member of our board of directors since December 2017. Since 2012, Dr. Spiegel has served as an Associate Professor at the Weill Cornell Medical School. In addition, Dr. Spiegel has served as a Senior Advisor to Warburg Pincus, a private equity firm, and an Advisor to the Israel Biotech Fund, a venture investment fund since 2010 and 2016, respectively. Prior to these positions, Dr. Spiegel served as Chief Medical Officer of PTC Therapeutics, Inc., a biopharmaceutical company, from March 2011 to April 2016. Prior to his time at PTC Therapeutics, Dr. Spiegel held various management positions at Schering-Plough Corporation, a global healthcare company, including as Chief Medical Officer and Senior Vice President of the Schering-Plough Research Institute, the pharmaceutical research arm of the Schering-Plough Corporation from 1998 to 2009. Dr. Spiegel is currently a member of the board of directors of Geron Corporation and Cyclacel Pharmaceuticals, Inc., biopharmaceutical company, since 2010 and 2018, respectively. Dr. Spiegel has previously served as a member of the board of directors for Sucampo Pharmaceuticals, Inc., a biopharmaceutical company, Edge Therapeutics, Inc., a biotechnology company, Avior Computing Corporation, a privately-held governance risk and compliance process technology company, Talon Therapeutics, Inc., a biopharmaceutical company, Capstone Therapeutics Corp., a biotechnology company, the Cancer Institute of New Jersey and Cancer Care New Jersey. Dr. Spiegel received a B.A. in 1971 from Yale University and an M.D. from the University of Pennsylvania in 1975. Following his residency in internal medicine, Dr. Spiegel completed a fellowship in medical oncology at the National Cancer Institute. We believe that Dr. Spiegel's extensive medical and scientific knowledge as well as his experience in the life science industry qualifies him to serve on our board of directors.

Murray A. Goldberg has served as a member of our board of directors since December 2017. Mr. Goldberg held various management positions at Regeneron Pharmaceuticals, Inc., a biopharmaceutical company, from March 1995 to March 2015, including as Senior Vice President of Administration and Assistant Secretary from October 2013 to March 2015, as Chief Financial Officer and Senior Vice President, Finance and Administration and Assistant Secretary from March 1995 to October 2013 and as Treasurer from March 1995 to October 2012. Mr. Goldberg has been a member of the board of directors of Aerie Pharmaceuticals Inc., a biopharmaceutical company, since August 2013 and serves as the chairman of its audit committee. Mr. Goldberg has been a member of the board of directors of Teva Pharmaceuticals Industries Ltd. since July 2017. Mr. Goldberg received a B.S. in Engineering from New York University, a Master's degree in International Economics from the London School of Economics and an M.B.A. from the University of Chicago. We believe that Mr. Goldberg is qualified to serve on our board of directors because of his broad financial, operational and transactional experience in the industry.

Todd Sone has served as a member of our board of directors since April 2018. Since December 2017, Mr. Sone has served as a partner at aMoon 2 Fund Limited Partnership, a healthtech and life-science venture

capital firm. Prior to his time at aMoon, Mr. Sone served as a Managing Director at Signet Healthcare Partners, an investment fund that provides growth capital to commercial-stage life-science companies, from December 2009 to December 2017. Mr. Sone served on the board of directors of Arbor Pharmaceuticals, LLC, a biopharmaceutical company, Apicore US LLC, a biopharmaceutical company, Impopharma Inc., a biopharmaceutical company, and SMART Medical Systems Ltd., a medical device company. Mr. Sone received a B.Com (with High Distinction) from the University of Toronto and an M.B.A. from The Wharton School at the University of Pennsylvania with concentrations in healthcare management and finance. We believe that Mr. Sone's extensive experience in the life-science industry qualifies him to serve on our board of directors.

Guy Harmelin, M.D. has served as a member of our board of directors since December 2017. Since May 2017, Mr. Harmelin has led the Alternative Investments at Harel Insurance Investments & Financial Services Ltd, an investment company. Prior to his time at Harel, Dr. Harmelin was the Co-Founder, and served as the CEO, of RondinX Ltd., a microbiome drug target discovery company, from December 2015 to May 2017. Prior to his time at RondinX Ltd., Dr. Harmelin served as a Resident Physician at Tel Aviv Medical Center and as a principal at 7-Health Ventures, a Life Science Venture Capital Fund, from January 2010 to November 2015. Dr. Harmelin received his M.D. from the University of Florence, Italy, with summa cum laude honors. We believe that Mr. Harmelin is qualified to serve on our board of directors because of his broad financial, operational and transactional experience in the life science industry. Dr. Harmelin has notified us that he will resign from our board of directors immediately prior to the effectiveness of the registration statement of which this prospectus forms a part.

Board Composition and Election of Directors

Director Independence

Our board of directors currently consists of six members. Our board will consist of five members following the resignation of Dr. Harmelin, which will be effective upon the effectiveness of the registration statement relating to this offering. Our board of directors has determined that, of these five directors, David Sidransky, Robert Spiegel, Murray Goldberg and Todd Sone do not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is "independent" as that term is defined under the rules of The Nasdaq Stock Market LLC, or Nasdaq. There are no family relationships among any of our directors or executive officers.

Classified Board of Directors

In accordance with our restated certificate of incorporation that will go into effect upon the closing of this offering, our board of directors will be divided into three classes with staggered, three-year terms. At each annual meeting of stockholders, the successors to directors whose terms then expire will be elected to serve from the time of election and qualification until the third annual meeting following election. Effective upon the closing of this offering, our directors will be divided among the three classes as follows:

- the Class I directors will be Murray Goldberg and Robert Spiegel, and their terms will expire at our first annual meeting of stockholders following this offering;
- the Class II directors will be Roni Mamluk and Todd Sone, and their terms will expire at our second annual meeting of stockholders following this offering; and
- the Class III director will be David Sidransky, and his terms will expire at the third annual meeting of stockholders following this offering.

Our restated certificate of incorporation that will go into effect upon the closing of this offering will provide that the authorized number of directors may be changed only by resolution of the board of directors. Any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the directors. The division of our

board of directors into three classes with staggered three-year terms may delay or prevent a change of our management or a change in control of our company. Our directors may be removed only for cause by the affirmative vote of the holders of at least two-thirds of our outstanding voting stock entitled to vote in the election of directors.

Our directors were elected to and currently serve on the board pursuant to a stockholders agreement among us and our existing stockholders. See "Certain Relationships and Related Party Transactions—Stockholders Agreement." This agreement will terminate upon the closing of this offering, after which there will be no further contractual obligations regarding the election of our directors.

Board Leadership Structure

Our board of directors is currently chaired by David Sidransky, M.D. Our corporate governance guidelines provide that, if the chairman of the board is a member of management or does not otherwise qualify as independent, the independent directors of the board may elect a lead director. The lead director's responsibilities would include, but would not be limited to: presiding over all meetings of the board of directors at which the chairman is not present, including any executive sessions of the independent directors; approving board meeting schedules and agendas; and acting as the liaison between the independent directors and the chief executive officer and chairman of the board. Our corporate governance guidelines further provide the flexibility for our board of directors to modify our leadership structure in the future as it deems appropriate.

Role of the Board in Risk Oversight

One of the key functions of our board of directors is informed oversight of our risk management process. Our board of directors does not have a standing risk management committee, but rather administers this oversight function directly through our board of directors as a whole, as well as through various standing committees of our board of directors that address risks inherent in their respective areas of oversight. In particular, our board of directors is responsible for monitoring and assessing strategic risk exposure and our audit committee has the responsibility to consider and discuss our major financial risk exposures and the steps our management has taken to monitor and control these exposures, including guidelines and policies to govern the process by which risk assessment and management is undertaken. Our audit committee also monitors compliance with legal and regulatory requirements. Our nominating and corporate governance committee monitors the effectiveness of our corporate governance practices, including whether they are successful in preventing illegal or improper liability-creating conduct. Our compensation committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking. While each committee is responsible for evaluating certain risks and overseeing the management of such risks, our entire board of directors is regularly informed through committee reports about such risks.

Board Committees

Our board of directors has an audit committee, a compensation committee and a nominating and corporate governance committee, each of which has the composition and the responsibilities described below. In addition, from time to time, special committees may be established under the direction of our board of directors when necessary to address specific issues.

Each of the three standing committees—audit, compensation and nominating and corporate governance—each of which operates under a charter that has been approved by our board of directors. Upon our listing on The Nasdaq Global Market, each committee's charter will be available under the Corporate Governance section of our website at *www.ayalapharma.com*. The reference to our website address does not constitute incorporation by reference of the information contained at or available through our website, and you should not consider it to be a part of this prospectus.

Audit Committee

The audit committee's responsibilities include:

- appointing, approving the compensation of, and assessing the independence of our registered public accounting firm;
- overseeing the work of our registered public accounting firm, including through the receipt and consideration of reports from such firm;
- reviewing and discussing with management and the registered public accounting firm our annual and quarterly financial statements and related disclosures;
- coordinating our board of directors' oversight of our internal control over financial reporting, disclosure controls and procedures and code of business conduct and ethics;
- discussing our risk management policies;
- meeting independently with our internal auditing staff, if any, registered public accounting firm and management;
- reviewing and approving or ratifying any related person transactions; and
- preparing the audit committee report required by the Securities Exchange Commission, or SEC, rules.

The members of our audit committee are Robert Spiegel, Murray Goldberg and Todd Sone. Murray Goldberg serves as the chairperson of the committee. All members of our audit committee meet the requirements for financial literacy under the applicable listing rules of Nasdaq, or the Nasdaq rules. Our board of directors has determined that Robert Spiegel and Murray Goldberg meet the independence requirements of Rule 10A-3 under the Exchange Act and the applicable Nasdaq rules. Our board of directors has determined that Murray Goldberg is an "audit committee financial expert" as defined by applicable SEC rules and has the requisite financial sophistication as defined under the applicable Nasdaq rules. As allowed under the applicable rules and regulations of the SEC and the Nasdaq Rules, we intend to phase in compliance with the heightened audit committee independence requirements prior to the end of the one-year transition period.

We believe that the composition and functioning of our audit committee complies with all applicable requirements of the Sarbanes-Oxley Act, and all applicable SEC and Nasdaq rules and regulations. We intend to comply with future requirements to the extent they become applicable to us.

Compensation Committee

The compensation committee's responsibilities include:

- reviewing and approving, or recommending for approval by the board of directors, the compensation of our CEO and our other executive officers;
- overseeing and administering our cash and equity incentive plans;
- reviewing and making recommendations to our board of directors with respect to director compensation;
- reviewing and discussing annually with management our "Compensation Discussion and Analysis," to the extent required; and
- preparing the annual compensation committee report required by SEC rules, to the extent required.

The members of our compensation committee are David Sidransky, Robert Spiegel and Todd Sone. David Sidransky serves as the chairperson of the committee. Our board of directors has determined that each of David Sidransky, Robert Spiegel and Todd Sone is independent under the applicable Nasdaq rules, including the Nasdaq rules specific to membership on the compensation committee, and is a "non-employee director" as defined in Rule 16b-3 promulgated under the Exchange Act.

We believe that the composition and functioning of our compensation committee complies with all applicable requirements of the Sarbanes-Oxley Act, and all applicable SEC and Nasdaq rules and regulations. We intend to comply with future requirements to the extent they become applicable to us.

Nominating and Corporate Governance Committee

The nominating and corporate governance committee's responsibilities include:

- identifying individuals qualified to become board members;
- recommending to our board of directors the persons to be nominated for election as directors and to each board committee;
- developing and recommending to our board of directors corporate governance guidelines, and reviewing and recommending to our board of directors proposed changes to our corporate governance guidelines from time to time; and
- overseeing a periodic evaluation of our board of directors.

The members of our nominating and corporate governance committee are David Sidransky, Murray Goldberg and Todd Sone. David Sidransky serves as the chairperson of the committee. Our board of directors has determined that David Sidransky, Murray Goldberg and Todd Sone are independent under the applicable Nasdaq rules.

Compensation Committee Interlocks and Insider Participation

No member of our compensation committee is or has been our current or former officer or employee. None of our executive officers served as a director or a member of a compensation committee (or other committee serving an equivalent function) of any other entity, one of whose executive officers served as a director or member of our compensation committee during the fiscal year ended December 31, 2019.

Code of Ethics and Code of Conduct

We have adopted a written code of business conduct and ethics that applies to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. Upon our listing on The Nasdaq Global Market, our code of business conduct and ethics will be available under the Corporate Governance section of our website at *www.ayalapharma.com*. In addition, we intend to post on our website all disclosures that are required by law or the Nasdaq rules concerning any amendments to, or waivers from, any provision of the code. The reference to our website address does not constitute incorporation by reference of the information contained at or available through our website, and you should not consider it to be a part of this prospectus.

EXECUTIVE AND DIRECTOR COMPENSATION

This section discusses the material components of the executive compensation program for our executive officers who are named in the "2019 Summary Compensation Table" below. In 2019, our "named executive officers" and their positions were as follows:

- Roni Mamluk, Ph.D., Chief Executive Officer;
- Yossi Maimon, CPA, M.B.A., Chief Financial Officer; and
- Gary Gordon, M.D., Ph.D., Chief Medical Officer.

This discussion may contain forward-looking statements that are based on our current plans, considerations, expectations and determinations regarding future compensation programs. Actual compensation programs that we adopt following the completion of this offering may differ materially from the currently planned programs summarized in this discussion.

2019 Summary Compensation Table

The following table sets forth information concerning the compensation of our named executive officers for the year ended December 31, 2019.

Name and Principal Position	Year	Salary ($)(1)	Bonus ($)	Stock Awards ($)(5)	Option Awards ($)(5)	Non-Equity Incentive Plan Compensation ($)(6)	All Other Compensation ($)	Total ($)
Roni Mamluk, Ph.D. *Chief Executive Officer*(2)	2019	248,784	—	307,447	—	56,940	84,843(7)	698,014
Yossi Maimon, C.P.A., M.B.A. *Chief Financial Officer*(3)	2019	217,103	—	—	357,776	74,571	78,278(7)	727,728
Gary Gordon, M.D., Ph.D. *Chief Medical Officer*(4)	2019	156,250	70,000(8)	—	447,751	53,151	43,861(9)	771,013

(1) Amounts reported for the named executive officer and paid in New Israeli Shekels are converted from New Israeli Shekels to U.S. dollars using an exchange rate of 3.5 New Israeli Shekels to 1 U.S. dollar.
(2) Dr. Mamluk was employed on an 80% basis until October 1, 2019. Dr. Mamluk is based in Israel.
(3) Mr. Maimon's employment commenced on March 15, 2019. Mr. Maimon was employed on an 80% basis until July 20, 2019. Mr. Maimon is based in Israel.
(4) Dr. Gordon's employment commenced on August 1, 2019. Dr. Gordon is employed on an 80% basis and is based in the United States.
(5) Amounts reflect the full grant-date fair value of stock awards and stock options granted during 2019 computed in accordance with ASC Topic 718, rather than the amounts paid to or realized by the named individual. We provide information regarding the assumptions used to calculate the value of all stock awards and option awards made to named executive officers in Note 9 to the consolidated financial statements included elsewhere in this prospectus.
(6) Amounts reported represent annual bonuses paid based upon the achievement of our corporate objectives for 2019. Refer to "—Narrative Disclosure to Summary Compensation Table—2019 Bonuses" below for additional information.
(7) Consists of contributions to Dr. Mamluk's and Mr. Maimon's severance funds, pension funds and educational funds, in each case, under Israeli law, and the use of a leased company car.
(8) Amount represents a sign-on bonus paid to Dr. Gordon in connection with his commencement of employment with us.
(9) Amount represents matching 401(k) contributions, travel allowance, cell phone use and reimbursement of certain other items relating to Dr. Gordon's use of a home office.

Narrative Disclosure to Summary Compensation Table

The following describes material features of the compensation disclosed in the Summary Compensation Table.

2019 Salaries

The named executive officers receive a base salary to compensate them for services rendered to our company. The base salary payable to each named executive officer is intended to provide a fixed component of compensation reflecting the executive's skill set, experience, role and responsibilities. The 2019 annual base salaries for our named executive officers were as follows (converted to U.S. dollars based on the exchange rate of 3.5 New Israeli Shekels to 1 U.S. dollar for each of Dr. Mamluk and Mr. Maimon):

Name	2019 Annual Base Salary ($)
Roni Mamluk	292,000
Yossi Maimon	274,285
Gary Gordon	375,000

In March 2019, Dr. Mamluk's salary increased from $205,714 to $233,600. In October 2019, Dr. Mamluk's salary increased to $292,000 coincident with her transition from 80% to full-time employment, and increased again on January 1, 2020 to $344,143. In July 2019, Mr. Maimon's salary increased to $274,285 coincident with his transition from 80% to full-time employment.

2019 Bonuses

We offer our named executive officers the opportunity to earn annual performance bonuses to compensate them for attaining short-term corporate goals established by our board of directors. Our board of directors determines the amount of any annual performance bonus payment by multiplying the level of achievement of the applicable performance criteria by the named executive officer's target bonus percentage and the named executive officer's annual base salary. In addition, the board of directors retains discretion to adjust the bonus amounts upward or downward based on any factors that it determines are relevant. For 2019, performance bonuses were based on achieving certain clinical, development and corporate targets.

The 2019 target bonus amounts for our named executive officers, expressed as percentages of their respective annual base salaries, were 30% for Dr. Mamluk, 50% for Mr. Maimon and 40% for Dr. Gordon. Each of Dr. Mamluk's, Mr. Maimon's and Dr. Gordon's bonuses for 2019 were prorated based on the length of their service and/or percentage of full-time employment with the Company. The actual annual cash bonuses awarded to each named executive officer for their 2019 performance are set forth above in the 2019 Summary Compensation Table in the column titled "Non-Equity Incentive Plan Compensation."

Dr. Gordon was also awarded a signing bonus of $70,000, which was made payable immediately upon the commencement of his employment with the Company during 2019 but is subject to repayment in the event of certain terminations of employment as described below under "Executive Compensation Arrangements."

Equity Compensation

In 2019, we granted to certain of our named executive officers options to purchase shares of our common stock and restricted stock as set forth below.

Named Executive Officer	2019 Stock Options Granted	2019 Restricted Stock Granted
Roni Mamluk	—	47,299(1)
Yossi Maimon	79,960(2)	—
Gary Gordon	95,000(3)	—

(1) The restricted stock vests quarterly over a period of four years from December 24, 2019 subject to continued service with the Company.
(2) Consists of an option to purchase 9,460 shares that vests quarterly over a period of four years from December 24, 2019 subject to continued service with the Company and an option to purchase 70,500 shares that vests as to 25% of the underlying shares on March 15, 2020 and in equal quarterly installments over the following three years, subject to continued service with the Company.
(3) The option vests as to 25% of the underlying shares on August 1, 2020 and in equal quarterly installments over the following three years, subject to continued service with the Company.

Each equity award was granted under our 2017 Stock Incentive Plan, and each option was granted with an exercise price equal to the fair market value of our common stock on the date of grant, as determined by the board of directors.

In addition, our board of directors has approved the grant of certain equity awards to our named executive officers to be made under our 2017 Stock Incentive Plan effective as of immediately prior to the effectiveness of the registration statement for our initial public offering. For Dr. Mamluk, in accordance with her employment agreement, our board of directors has approved the grant of an option to purchase 47,299 shares with an exercise price equal to the initial public offering price of our common stock and the grant of 47,299 shares of restricted stock, each of which vests as to 25% of the underlying shares on the first anniversary of the effective grant date and an additional 6.25% of the underlying shares quarterly thereafter, provided that the award will vest in full upon a Merger/Sale (as defined in the 2017 Plan), subject to continued service to the Company. For Mr. Maimon, our board of directors has approved a grant of 11,352 shares of restricted stock, which vests as to 6.25% of the underlying shares quarterly for a period of four years from the effective grant date, subject to continued service to the Company, provided that in the event Mr. Maimon's employment is terminated without Cause or if he resigns for Good Reason (each, as defined the award agreement) on or within 12 months following a Merger/Sale, the award will vest in full.

Our 2017 Stock Incentive Plan facilitates the grant of equity incentives to directors, employees (including our named executive officers) and consultants of our company and certain of its affiliates and to enable our company and certain of its affiliates to obtain and retain services of these individuals, which is essential to our long-term success. We have adopted an amendment and restatement of the 2017 Stock Incentive Plan in connection with this offering. For additional information about the 2017 Stock Incentive Plan, refer to "—Incentive Compensation Plan" below.

Other Elements of Compensation

U.S. Retirement Plan

We maintain a 401(k) retirement savings plan for our U.S.-based employees, including Dr. Gordon, who satisfy certain eligibility requirements. Our named executive officers are eligible to participate in the 401(k) plan on the same terms as other full-time employees. In 2019, we made a matching contribution of 100% of all employee contributions up to 6% of the employee's base salary. We believe that providing a vehicle for tax-deferred retirement savings though our 401(k) plan adds to the overall desirability of our executive compensation package and further incentivizes our employees, including our named executive officers, in accordance with our compensation policies.

Benefits to Israeli Employees

We are obligated under labor laws in Israel to make regular deposits to funds administered by financial institutions for certain pension and severance liabilities on behalf of each of our Israeli employees, including our Israel-based named executive officers, subject to certain conditions. The amount of these contributions is based on the benefit obligation amount, which has not yet been deposited into an employee's fund. We also make

certain non-obligatory contributions to an education fund for our Israeli employees generally, including our Israel-based named executive officers.

Employee Benefits and Perquisites

During their employment, our U.S. named executive officers are eligible to participate in our employee benefit plans and programs, including medical and dental benefits, to the same extent as our other full-time employees, subject to the terms and eligibility requirements of those plans. We reimburse business expenses to our named executive officers on the same basis as other employees and also provide our named executive officers with the personal use of a leased company car and reimbursement of certain car-related expenses.

No Tax Gross-Ups

We do not make gross-up payments to cover our named executive officers' personal income taxes that may pertain to any of the compensation or perquisites paid or provided by us.

Outstanding Equity Awards at 2019 Fiscal Year-End

The following table summarizes the number of shares of common stock underlying outstanding equity incentive plan awards for each named executive officer as of December 31, 2019.

		Option Awards				Stock Awards	
Name	Grant Date	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested ($)(1)
Roni Mamluk	02/01/2018(2)	35,332	35,333	5.10	02/01/2028		
Roni Mamluk	12/24/2019(3)	—	—	—	—	47,299	307,477
Yossi Maimon	03/15/2019(4)	—	70,500	5.16	03/15/2029	—	—
Yossi Maimon	12/24/2019(5)	—	9,460	6.50	12/23/2029		
Gary Gordon	09/19/2019(6)	—	95,000	5.16	09/19/2029	—	—

(1) Calculated based on $6.50, the estimated per share fair value of our common stock as of December 31, 2019.
(2) 25% of the shares subject to the option vested on November 15, 2018, and the remainder vests in equal quarterly installments over the following three years, subject to continued service with the Company. The option is subject to full acceleration in the event of a Merger/Sale (as defined in the 2017 Stock Incentive Plan).
(3) The restricted shares vest quarterly over four years from December 24, 2019, subject to continued service with the Company.
(4) 25% of the shares subject to the option vest on March 15, 2020, and the remainder vests in equal quarterly installments over the following three years, subject to continued service with the Company.
(5) The shares subject to the option vest quarterly over four years from December 24, 2019, subject to continued service with the Company.
(6) 25% of the shares subject to the option vest on August 1, 2020, and the remainder vests in equal quarterly installments over the following three years, subject to continued service with the Company.

Executive Compensation Arrangements

Employment Agreement with Dr. Roni Mamluk

Pursuant to the terms of Dr. Mamluk's employment agreement, effective as of November 30, 2017 and as amended on March 31, 2019, she is entitled to a monthly salary of NIS 68,133 for employment on an 80% basis, increased to NIS 85,166 upon her transition to full-time employment and is eligible to receive an annual target bonus of up to 30% of her base salary. Dr. Mamluk's employment agreement also provided for an initial option to purchase 70,665 shares of the Company's common stock. Dr. Mamluk's employment agreement provides that the Company may terminate Dr. Mamluk's employment without Cause with 90 days' prior notice, or pay in lieu of such notice. Dr. Mamluk's employment agreement also provides for her use of a leased company car and reimbursement of certain car-related expenses.

Pursuant to the applicable award agreement, Dr. Mamluk's option award granted on February 1, 2018 will vest in full in the event the Company consummates a Merger/Sale (as defined in the 2017 Stock Incentive Plan).

Dr. Mamluk's employment agreement also provides that immediately prior to an initial public offering of the Company, the Company will grant to her an additional option award covering 0.5% of the Company's fully diluted shares outstanding and an additional restricted stock award covering 0.5% of the Company's fully diluted shares outstanding. Refer to "—Narrative Disclosure to Summary Compensation Table—Equity Compensation" above for additional information regarding these awards.

Employment Agreement with Mr. Yossi Maimon

Pursuant to the terms of Mr. Maimon's employment agreement, dated March 15, 2019, he is eligible to receive a monthly salary of NIS 64,000 for employment on an 80% basis, increased to NIS 80,000 upon his transition to full-time employment and is eligible to receive an annual target bonus of up to six times his monthly base salary. Mr. Maimon's employment agreement also provided for an initial grant of an option to purchase 70,500 shares of the Company's common stock. Mr. Maimon's employment agreement provides that the Company may terminate Mr. Maimon's employment without Cause with 60 days' prior notice, or pay in lieu of such notice. Mr. Maimon's employment agreement also provides for his use of a leased company car and reimbursement of certain car-related expenses or an equivalent monthly travel allowance in lieu of a lease car and payment for Mr. Maimon's lunch on each business day.

Mr. Maimon's employment agreement also provides that, in the event of an initial public offering of the Company, he is entitled to a one-time bonus payment equal to six times his monthly base salary as in effect prior to the closing of such initial public offering.

Employment Agreement with Dr. Gary Gordon

Pursuant to the terms of Dr. Gordon's employment agreement, dated July 24, 2019, he is entitled to a base salary of $375,000 and is eligible to receive an annual target bonus of up to 40% of his base salary. Dr. Gordon's employment agreement also provided for an initial option to purchase 95,000 shares of the Company's common stock. Dr. Gordon received a one-time sign-on bonus of $70,000 pursuant to his employment agreement. In the event Dr. Gordon is terminated by the Company for Cause (as defined in his employment agreement) prior to the second anniversary of his start date or in the event Dr. Gordon resigns without Good Reason (as defined in his employment agreement) prior to the first anniversary of his start date, he will be obligated to repay the full amount of the sign-on bonus, and in the event Dr. Gordon resigns without Good Reason following the first anniversary of his start date but before the second anniversary of his start date, he will be obligated to repay a prorated portion of the sign-on bonus based on the length of his employment with the Company.

Dr. Gordon's employment agreement provides that the Company may terminate Dr. Gordon's employment without Cause with three months' prior notice. In addition, pursuant to Dr. Gordon's employment agreement, in

the event that Dr. Gordon's employment is terminated by the Company without Cause or by Dr. Gordon for Good Reason, he will be entitled to receive continued payment of his base salary for three to six months following the termination date based on the date and circumstances of such termination.

Dr. Gordon's employment agreement also provides that in the event Dr. Gordon's employment terminates prior to the end of fiscal year other than by the Company for Cause or by him without Good Reason, he will be eligible to receive his annual bonus based on actual achievement of the applicable performance goals, prorated based on the length of his employment during such year.

Employment Agreement Amendments

We have entered into employment agreement amendments with Mr. Maimon and Dr. Gordon and an amended and restated employment agreement with Dr. Mamluk, effective January 1, 2020. These agreements provide that if the named executive officer's employment is terminated by the Company without Cause or the named executive offer resigns for Good Reason or Justified Reason (as applicable, and as defined in the applicable agreement), in each case, on or within 12 months following a Merger/Sale, then the named executive officer shall be entitled to receive a cash amount equal to the sum of his or her annual base salary and his or her target annual bonus for the year of termination, and accelerated vesting of all unvested equity awards then held by the named executive officer. In addition, the amendment with Mr. Maimon provides that he will be eligible for an annual target bonus of up to 40% of his annual salary.

Pursuant to Dr. Mamluk's amended and restated employment agreement, Dr. Mamluk is entitled to a monthly salary of NIS 100,375 and is eligible to receive an annual target bonus of 40% of her base salary. The amended and restated agreement also provides for the grant of an option and restricted stock award in connection with the initial public offering on the same terms and conditions as under her prior employment as described above. Pursuant to the agreement, the Company may terminate Dr. Mamluk's employment without cause with 90 days' prior notice, or pay in lieu of such notice. Dr. Mamluk's agreement also provides for her use of a leased company car and reimbursement of certain car-related expenses or an equivalent monthly travel allowance in lieu of a leased car and payment for lunch on each business day.

Director Compensation

Historically, we have not paid cash compensation to any of our non-employee directors for service on our board of directors and no such amounts were paid to our non-employee directors during 2019. Mr. Murray Goldberg and Dr. Robert Spiegel have each received awards of options under the 2017 Stock Incentive Plan for their board service; however, no such options were issued in 2019. According to each of their engagement agreements, each dated April 25, 2018, we granted to each of Mr. Goldberg and Dr. Spiegel options to purchase 17,500 shares of our common stock, which vest quarterly over two years subject to continued service. In addition, in the event either of Mr. Goldberg's or Dr. Spiegel's service is terminated by the Company other than for Cause (as defined in the 2017 Stock Incentive Plan), any unexercised and unvested options shall immediately accelerate and vest as of that termination date and will remain exercisable until up to the first anniversary of the termination date. The engagement agreements of Mr. Goldberg and Dr. Spiegel also require us to reimburse all reasonable out-of-pocket expenses incurred by Mr. Goldberg and Dr. Spiegel in performing their services for us.

The table below shows the aggregate numbers of option awards (exercisable and not exercisable) and unvested stock awards held as of December 31, 2019 by each of our non-employee directors.

Name	Options Outstanding at Fiscal Year End	Unvested Stock Awards Outstanding at Fiscal Year End
Murray A. Goldberg	17,500	—
Robert Spiegel, M.D., FACP.	17,500	—

Non-Employee Director Compensation Program

Effective on the effectiveness of the registration statement of which this prospectus forms a part, we adopted, and our stockholders approved, a compensation program for our non-employee directors, which will supersede in their entirety any prior arrangements with our non-employee directors. Under the non-employee director compensation program, each non-employee director will receive the following amounts for their services on our board of directors:

- Upon the director's initial election or appointment to our board of directors that occurs after our initial public offering,
  - an option to purchase 8,750 shares of our common stock for each director other than the chair of the board of directors;
  - an option to purchase 17,500 shares of our common stock for the chair of the board of directors;
- If the director has served on our board of directors for at least six months as of the date of an annual meeting of stockholders and will continue to serve as a director immediately following such meeting,
  - an option to purchase 6,250 shares of our common stock for each director other than the chair of the board of directors;
  - an option to purchase 12,500 shares of our common stock for the chair of the board of directors;
- An annual director fee of $25,000;
- If the director serves as chair of the board of directors or on a committee of our board of directors, an additional annual fee as follows:
  - Chair of the board of directors: $20,000;
  - Chair of the audit committee: $10,000;
  - Audit committee member other than the chair, $5,000
  - Chair of the compensation committee, $10,000;
  - Compensation committee member other than the chair, $5,000;
  - Chair of the nominating and corporate governance committee, $10,000; and
  - Nominating and corporate governance committee member other than the chair, $5,000.

Director fees under the program will be payable in arrears in four equal quarterly installments not later than the fifteenth day following the final day of each calendar quarter, provided that the amount of each payment will be prorated for any portion of a quarter that a director is not serving on our board and no fee will be payable in respect of any period prior to the effective date of the registration statement of which this prospectus is a part.

Stock options granted to our non-employee directors under the program will have an exercise price equal to the fair market value of our common stock on the date of grant and will expire not later than ten years after the date of grant. The stock options granted upon a director's initial election or appointment will vest in 36 substantially equal monthly installments following the date of grant. The stock options granted annually to directors will vest in a single installment on the earlier of the day before the next annual meeting or the first anniversary of the date of grant. In addition, all unvested stock options will vest in full upon the occurrence of a change in control.

Incentive Compensation Plan

We maintain the 2017 Stock Incentive Plan, pursuant to which we may grant equity and equity-based awards to our service providers, including our directors and named executive officers. We have adopted an

amendment and restatement of the 2017 Stock Incentive Plan in connection with this offering. The following summarizes the material terms of our 2017 Stock Incentive Plan, as amended and restated in connection with this offering.

2017 Stock Incentive Plan

The 2017 Stock Incentive Plan was adopted by our board of directors in December 2017. The 2017 Stock Incentive Plan provides for the grant of awards to employees, directors, officers, consultants, advisors and any other person or entity who provides services to us, or to any of our affiliates. The amendment and restatement of the 2017 Stock Incentive Plan will be effective immediately following the grant of the awards made to certain of our named executive offices in connection with this offering immediately prior to the effectiveness of the Company's registration statement relating to this offering becomes effective.

Authorized Shares. The maximum number of shares that may be issued pursuant to awards under the 2017 Stock Incentive Plan, as amended and restated, shall initially be 1,327,825. Such number of shares will be increased by an annual increase on the first day of each calendar year beginning on January 1, 2021 and ending on and including January 1, 2030, equal to the lesser of (i) 4% of the number of shares of common stock outstanding on the final day of the immediately preceding calendar year and (ii) such smaller number of shares as determined by the board of directors. No more than 7,550,000 shares may be available for issuance pursuant to the exercise of incentive stock options. Any shares (i) underlying an award granted under the plan that has expired, or was canceled, terminated, forfeited or, repurchased or settled in cash in lieu of issuance of shares, for any reason, without having been exercised; (ii) tendered to pay the exercise price or tax withholding obligations of an award; or (iii) withheld to pay the exercise price or tax withholding obligations of an award will again be available for grant of awards.

Administration. Our board of directors, or a duly authorized committee of our board of directors, administers the 2017 Stock Incentive Plan. Under the 2017 Stock Incentive Plan, the administrator has the authority, subject to applicable law, to interpret the terms of the 2017 Stock Incentive Plan and any notices of grant or awards granted thereunder, designate eligible grantees of award grants, prescribe the forms of agreement for use under the 2017 Stock Incentive Plan, set the time or times at which an award will be granted, accelerate or amend the vesting schedule applicable to an award grant, adopt policies, guidelines, rules and regulations related to the administration of the 2017 Stock Incentive Plan, determine the fair market value applicable to the shares underlying each award, determine the applicable tax track for purposes of 102 awards, convert, cancel, substitute or suspend an award, or determine, modify or waive or supplement the terms of awards, including (i) the vesting schedule, acceleration thereof, and terms and conditions upon which an award may be exercised or become vested, (ii) the exercise price of an award, (iii) the method of payment for an award, (iv) the method for satisfying applicable tax withholding obligations in connection with the awards, (v) the time of the expiration of the award, and (vi) the effect of termination of employment.

Eligibility. The 2017 Stock Incentive Plan provides for granting options in compliance with Section 102 of the Israeli Income Tax Ordinance (New Version), 5721-1961 (the "Ordinance") or, for options and restricted stock awards granted to consultants, advisors, service providers or controlling shareholders of the Company, under Section 3(i) of the Ordinance. Our 2017 Stock Incentive Plan also provides for the granting of both options to purchase common stock intended to qualify as incentive stock options under Section 422 of the United States Internal Revenue Code of 1986, as amended, or the Code, and options that do not so qualify.

Grant. All awards granted pursuant to the 2017 Stock Incentive Plan will be evidenced by a written or electronic notice of grant, in a form approved by the administrator in its sole discretion. The notice of grant will set forth the terms and conditions of the award grant. Each award will expire ten years from the date of the grant thereof, unless such shorter term of expiration is otherwise designated by the administrator and stated accordingly in the notice of grant.

Awards. The 2017 Stock Incentive Plan provides for the grant of stock options, restricted stock, restricted stock units, or RSUs, or other share or share-based awards.

- Stock Options. Stock options provide for the purchase of shares of our common stock in the future at an exercise price set on the grant date. The administrator will determine the number of shares covered by each option, the exercise price of each option and the conditions and limitations applicable to the exercise of each option. The exercise price of a stock option will not be less than 100% of the fair market value of the underlying share on the grant date (or 110% in the case of ISOs granted to certain significant stockholders). The term of a stock option may not be longer than ten years (or five years in the case of ISOs granted to certain significant stockholders).
- Restricted Stock and RSUs. Restricted stock is an award of nontransferable shares of our common stock that remain forfeitable unless and until specified conditions are met and which may be subject to a purchase price. RSUs are contractual promises to deliver shares of our common stock in the future, which may also remain forfeitable unless and until specified conditions are met. The terms and conditions applicable to restricted stock and RSUs will be determined by the administrator, subject to the conditions and limitations contained in the 2017 Stock Incentive Plan.
- Other Share or Share-Based Awards. The administrator may grant other awards pursuant to which shares, cash or a combination thereof may be received, including stock appreciation rights, or awards denominated in stock units, including units valued on the basis of measures other than market value.

Transferability. Other than by will, the laws of descent and distribution or as otherwise determined by the administrator or provided under the 2017 Stock Incentive Plan, neither the award nor any right in connection with such awards are assignable or transferable.

Termination of Employment. In the event of termination of a grantee's employment with the company or any of its affiliates, all vested and exercisable awards held by such grantee as of the date of termination may be exercised within three months after such date of termination, unless otherwise provided by the administrator. After such three month period, all unexercised awards will terminate and the shares covered by such awards shall again be available for issuance under the 2017 Stock Incentive Plan.

In the event of termination of a grantee's employment or service with the company or any of its affiliates due to such grantee's death or permanent disability, all vested and exercisable awards held by such grantee as of the date of termination may be exercised by the grantee or the grantee's legal guardian, estate, or by a person who acquired the right to exercise the award by bequest or inheritance, as applicable, within twelve months after such date of termination, unless otherwise provided by the administrator. Any awards which are unvested as of the date of death or permanent disability or which are vested but not then exercised within the twelve month period following such date, will terminate and the shares covered by such award shall again be available for issuance under the 2017 Stock Incentive Plan.

Notwithstanding any of the foregoing, if a grantee's employment or services with the company or any of its affiliates is terminated for "cause" (as defined in the 2017 Stock Incentive Plan), all outstanding awards held by such grantee (whether vested or unvested) will terminate on the date of such termination and the shares covered by such awards shall again be available for issuance under the 2017 Stock Incentive Plan.

Transactions. In the event of a division or subdivision of our outstanding capital stock, any distribution of bonus shares, consolidation or combination of our capital stock, reclassification of our common stock, a merger, or a reorganization (including combinations or exchanges or shares, spin-off or other divestitures or divisions), the administrator shall make an appropriate adjustment in the number of shares related to each outstanding award and to the number of shares reserved for issuance under the 2017 Stock Incentive Plan, to the class and kind of shares subject to the 2017 Stock Incentive Plan, the exercise price per share of each outstanding award, and the terms and conditions concerning vesting and exercisability, duration and term of outstanding awards.

In the event of a sale of all or substantially all of our assets or stock, a merger (including a consolidation, amalgamation or like transaction), a scheme for effecting any of the foregoing, approval by the stockholders of a complete dissolution or liquidation of the company, or any other such transaction or set of circumstances that the board determines is similarly applicable, the awards outstanding at such time will be assumed or substituted, unless otherwise determined by the administrator. If the awards outstanding are not assumed or substituted, the administrator may, in its sole discretion, provide the grantee a right to exercise its awards under such terms and conditions as determined by the administrator, or cancel each outstanding award and determine if and to what extent payment shall be made to the grantee.

Provisions Relating to Director Compensation. The 2017 Stock Incentive Plan provides that the administrator may establish compensation for non-employee directors from time to time subject to the plan's limitations. Our board of directors and stockholders have approved a compensation program for our non-employee directors, which is described above under the heading "Director Compensation." Our board of directors or its authorized committee may modify the non-employee director compensation program from time to time in the exercise of its business judgment, taking into account such factors, circumstances and considerations as it shall deem relevant from time to time, provided that the sum of any cash compensation or other compensation and the grant date fair value of any equity awards granted under the 2017 Stock Incentive Plan as compensation for services as a non-employee director during any fiscal year may not exceed $600,000, increased to $900,000 in 2020 or in the fiscal year of the non-employee director's initial service. The administrator may make exceptions to this limit for individual non-employee directors in extraordinary circumstances, as the administrator may determine in its discretion, subject to the limitations in the 2017 Stock Incentive Plan.

Plan Amendment. Our board of directors may amend, suspend, terminate or modify the 2017 Stock Incentive Plan at any time. However, stockholder approval should be obtained for any amendment that increases the maximum aggregate number or changes the class of persons eligible to receive shares under the 2017 Stock Incentive Plan, or changes the 2017 Stock Incentive Plan in any manner that would otherwise require stockholder approval under the law.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

The following includes a summary of transactions since January 1, 2017 to which we have been a party in which the amount involved exceeded or will exceed $120,000, and in which any of our directors, executive officers or, to our knowledge, beneficial owners of more than 5% of our capital stock or any member of the immediate family of any of the foregoing persons had or will have a direct or indirect material interest, other than equity and other compensation, termination, change in control and other arrangements, which are described under "Executive and Director Compensation." We also describe below certain other transactions with our directors, executive officers and stockholders.

Preferred Stock Financings

Series A Preferred Shares

On December 13, 2017, we issued and sold to investors 2,092,309 shares of our Series A preferred stock at a purchase price of $6.50 per share, for an aggregate consideration of approximately $13.6 million. On March 22, 2018, we issued and sold to investors an additional 461,540 shares of our Series A preferred stock at a purchase price of $6.50 per share, for an aggregate consideration of approximately $3.0 million.

Series B Preferred Shares

On December 19, 2018, we issued and sold to investors 3,097,343 shares of our Series B preferred stock at a purchase price of $7.91 per share, for an aggregate consideration of approximately $24.5 million. On February 18, 2019, we issued and sold to investors an additional 151,179 shares of our Series B preferred stock at a purchase price of $7.91 per share, for an aggregate consideration of approximately $1.2 million. On May 30, 2019, we issued and sold to investors an additional 502,152 shares of our Series B preferred stock at a purchase price of $7.91 per share, for an aggregate consideration of approximately $4.0 million.

The following table sets forth the aggregate number of shares of our capital stock acquired by beneficial owners of more than 5% of our capital stock in the financing transactions described above. Each share of our Series A preferred stock and Series B preferred stock identified in the following table will convert into 0.5 shares of common stock immediately prior to the closing of this offering.

Participants	Series A Preferred Stock	Series B Preferred Stock
5% or Greater Stockholders(1)		
Israel Biotech Fund I, L.P.	738,462	423,514
aMoon 2 Fund Limited Partnership	738,462	1,017,848
Harel Insurance Company Ltd.	615,385	423,514
Bristol-Myers Squibb Company	1,125,929	—
Novartis Institutes for BioMedical Research, Inc.	—	1,264,222

(1) Additional details regarding these stockholders and their equity holdings are provided in this prospectus under the caption "Principal Stockholders."

Some of our directors are associated with our principal stockholders as indicated in the table below:

Director	Principal Stockholder
David Sidransky	Israel Biotech Fund I, L.P.
Todd Sone	aMoon 2 Fund Limited Partnership
Guy Harmelin	Harel Insurance Company Ltd.
Murray Goldberg	Israel Biotech Fund I, L.P.
Robert Spiegel	Israel Biotech Fund I, L.P.

Investors' Rights Agreement

We entered into an Amended and Restated Investor Rights Agreement in December 2018 with the holders of our preferred stock, including entities with which certain of our directors are related. The agreement provides for certain rights relating to the registration of such holders' common stock, including shares issuable upon conversion of preferred stock, and a right of first refusal to purchase future securities sold by us. See "Description of Capital Stock—Registration Rights" for additional information.

Stockholders Agreement

We entered into an Amended and Restated Stockholders Agreement by and among us and certain of our stockholders, pursuant to which the following directors were elected to serve as members on our board of directors and, as of the date of this prospectus, continue to so serve: Dr. Robert Spiegel, Mr. Murray Goldberg, Dr. Guy Harmelin, Dr. David Sidransky, Mr. Todd Sone, and Roni Mamluk, Ph.D. Roni Mamluk, Ph.D. was selected to serve on our board of directors in her capacity as our chief executive officer. Dr. Sidransky was initially selected to serve on our board of directors as representative of holders of our preferred stock, as designated by Israel Biotech Fund I, L.P. Mr. Goldberg and Dr. Spiegel were initially selected to serve on our board of directors as industry expert directors, as designated by Israel Biotech Fund I, L.P. Mr. Sone was initially selected to serve on our board of directors as representative of holders of our preferred stock, as designated by aMoon 2 Fund Limited Partnership. Dr. Harmelin was initially selected to serve on our board of directors as representative of holders of our preferred stock, as designated by Harel Insurance Company Ltd.

The stockholders agreement will terminate immediately prior to the consummation of this offering, and members previously elected to our board of directors pursuant to this agreement will continue to serve as directors until they resign, are removed or their successors are duly elected by the holders of our common stock. The composition of our board of directors after this offering is described in more detail under "Management—Board Composition and Election of Directors."

Employment Agreements

We have entered into employment agreements with our named executive officers. For more information regarding the agreements with our named executive officers, see "Executive and Director Compensation — Executive Compensation Arrangements."

Indemnification Agreements

We intend to enter into indemnification agreements with each of our directors and executive officers. These agreements, among other things, require us or will require us to indemnify each director (and in certain cases their related venture capital funds) and executive officer to the fullest extent permitted by Delaware law, including indemnification of expenses such as attorneys' fees, judgments, fines and settlement amounts incurred by the director or executive officer in any action or proceeding, including any action or proceeding by or in right of us, arising out of the person's services as a director or executive officer.

Stock Option Grants to Executive Officers and Directors

We have granted stock options to our executive officers and certain of our directors as more fully described in the section entitled "Executive and Director Compensation."

Policies and Procedures for Related Person Transactions

Our board of directors has adopted a written related person transaction policy, to be effective upon the closing of this offering, setting forth the policies and procedures for the review and approval or ratification of

related person transactions. This policy will cover, with certain exceptions set forth in Item 404 of Regulation S-K under the Securities Act, any transaction, arrangement or relationship, or any series of similar transactions, arrangements or relationships, in which we were or are to be a participant, where the amount involved exceeds $120,000 in any fiscal year and a related person had, has or will have a direct or indirect material interest, including without limitation, purchases of goods or services by or from the related person or entities in which the related person has a material interest, indebtedness, guarantees of indebtedness and employment by us of a related person. In reviewing and approving any such transactions, our audit committee is tasked to consider all relevant facts and circumstances, including, but not limited to, whether the transaction is on terms comparable to those that could be obtained in an arm's-length transaction and the extent of the related person's interest in the transaction. All of the transactions described in this section occurred prior to the adoption of this policy.

PRINCIPAL STOCKHOLDERS

The following table sets forth information with respect to the beneficial ownership of our common stock, as of March 31, 2020 by:

- each person or group of affiliated persons known by us to beneficially own more than 5% of our common stock;
- each of our named executive officers;
- each of our directors; and
- all of our executive officers and directors as a group.

The number of shares beneficially owned by each stockholder is determined under rules issued by the Securities and Exchange Commission. Under these rules, beneficial ownership includes any shares as to which the individual or entity has sole or shared voting power or investment power. Applicable percentage ownership is based on 8,779,944 shares of common stock outstanding as of March 31, 2020, assuming the conversion of all outstanding shares of our preferred stock into common stock. In computing the number of shares beneficially owned by an individual or entity and the percentage ownership of that person, shares of common stock subject to options, warrants or other rights held by such person that are currently exercisable or will become exercisable within 60 days of March 31, 2020 are considered outstanding, although these shares are not considered outstanding for purposes of computing the percentage ownership of any other person. Unless noted otherwise, the address of all listed stockholders is Oppenheimer 4, Rehovot 7670104, Israel. Each of the stockholders listed has sole voting and investment power with respect to the shares beneficially owned by the stockholder unless noted otherwise, subject to community property laws where applicable.

The following table does not reflect any potential purchases by our executive officers, directors, their affiliated entities or holders of more than 5% of our common stock in this offering or any equity awards granted to our executive officers or directors contingent on this offering. If any shares are purchased by and to the extent any such equity awards have been granted to these persons or entities, the number and percentage of shares of our common stock beneficially owned by them after this offering will differ from the amounts set forth in the following table.

		Percentage of common stock beneficially owned	
Name of Beneficial Owner	Shares of common stock beneficially owned	Before this offering	After this offering
5% or Greater Stockholders			
Israel Biotech Fund I, L.P.(1)	3,090,119	35.2%	25.5%
aMoon 2 Fund Limited Partnership(2)	2,191,473	25.0	18.1
Harel Insurance Company Ltd.(3)	1,613,834	18.4	13.3
Bristol-Myers Squibb Company(4)	562,964	6.4	4.6
Novartis Institutes for BioMedical Research, Inc.(5)	632,111	7.2	5.2
Named Executive Officers and Directors			
Roni Mamluk, Ph.D.(6)	162,130	1.8	1.3
Yossi Maimon, CPA, M.B.A.(7)	18,216	*	*
Gary Gordon, M.D., Ph.D.	—	—	—
David Sidransky, M.D.(1)	—	—	—
Robert Spiegel, M.D., FACP(1)(8)	18,281	*	*
Murray A. Goldberg(1)(9)	18,281	*	*
Todd Sone(2)	—	—	—
Guy Harmelin, M.D.(3)	—	—	—
All executive officers and directors as a group (8 persons)(10)	216,908	2.5	1.8

* Less than 1%.

(1) Consists of 2,509,131 shares of common stock and 580,988 shares of common stock issuable upon conversion of shares of convertible preferred stock held by Israel Biotech Fund I, L.P. ("IBF I"). Israel Biotech Fund GP Partners, L.P. ("IBF") is the sole general partner of IBF I. I.B.F. Management, Ltd. ("IBF Management") is the sole general partner of IBF. IBF and IBF Management may be deemed to have sole voting and dispositive power with respect to the common stock and preferred stock held by IBF I. Dr. Robert Spiegel, a member of our board of directors and an advisor to IBF, Mr. Murray Goldberg, a member of our board of directors and an advisor to IBF, and Dr. David Sidransky, the chairman of our board of directors managing partner of IBF and director of IBF Management, disclaim beneficial ownership over such shares, except to the extent of their pecuniary interest therein (as limited partners of IBF I and IBF). The address of IBF I, IBF and IBF Management is Ruhrberg Science Center, Bell Entrance, 4th Floor, 3 Pekeris Street, Rabin Science Park, Rehovot 7670212, Israel.

(2) Consists of 1,313,318 shares of common stock and 878,155 shares of common stock issuable upon conversion of shares of convertible preferred stock held by aMoon 2 Fund Limited Partnership ("aMoon"). aMoon 2 Fund G.P. Limited Partnership ("aMoon G.P.") is the sole general partner of aMoon. aMoon General Partner Ltd. ("aMoon Ltd.") is the sole general partner of aMoon G.P. Mr. Yair C. Schindel is the sole shareholder of aMoon Ltd. Thus, aMoon G.P., aMoon Ltd. and Mr. Yair C. Schindel may be deemed to have sole voting and dispositive power with respect to the common stock and preferred stock held by aMoon. Todd Sone, a member of our board of directors and a partner in aMoon, disclaims beneficial ownership over such shares, except to the extent of his pecuniary interest therein. The address of aMoon is 34 Yerushalaim Rd, Beit Gamla, 6th Floor, Ra'anana, 4350110, Israel.

(3) Consists of 1,094,385 shares of common stock and 519,449 shares of common stock issuable upon conversion of shares of convertible preferred stock held by Harel Insurance Company Ltd. ("Harel"), a subsidiary of Harel Insurance Investments & Financial Services Ltd. Dr. Guy Harmelin, a member of our board of directors and Vice President of Alternative Investments at Harel Insurance Investments & Financial Services Ltd., disclaims beneficial ownership over such shares, except to the extent of his pecuniary interest therein. Harel Insurance Investments & Financial Services Ltd. is a widely held public company listed on the Tel Aviv Stock Exchange. The address of Harel is 3 Abba Hillel Rd. Ramat Gan, Israel.

(4) Consists of 562,964 shares of common stock issuable upon conversion of shares of convertible preferred stock held by Bristol-Myers Squibb Company ("BMS"). The address of BMS is P.O. Box 4000, Route 206 & Province Line Road, Princeton, New Jersey 08543 USA.

(5) Consists of 632,111 shares of common stock issuable upon conversion of shares of convertible preferred stock held by Novartis Institutes for BioMedical Research, Inc. ("NIBR"). The address of NIBR is 250 Massachusetts Avenue Cambridge, Massachusetts 02139 USA.

(6) Includes 44,166 shares of common stock underlying options which are exercisable within 60 days of March 31, 2020.

(7) Includes 18,216 shares of common stock underlying options which are exercisable within 60 days of March 31, 2020.

(8) Includes 18,281 shares of common stock underlying options which are exercisable within 60 days of March 31, 2020.

(9) Includes 18,281 shares of common stock underlying options which are exercisable within 60 days of March 31, 2020.

(10) Includes 98,944 shares of common stock underlying options which are exercisable within 60 days of March 31, 2020.

DESCRIPTION OF CAPITAL STOCK

General

The following description summarizes some of the terms of our restated certificate of incorporation and restated bylaws that will become effective upon the closing of this offering, the amended and restated investors' rights agreement and of the General Corporation Law of the State of Delaware. Because it is only a summary, it does not contain all the information that may be important to you. For a complete description, you should refer to our restated certificate of incorporation, restated bylaws and the amended and restated investors' rights agreement, copies of which have been or will be filed as exhibits to the registration statement of which this prospectus is a part, as well as the relevant provisions of the General Corporation Law of the State of Delaware. The description of our common stock and preferred stock reflects changes to our capital structure that will occur in connection with the closing of this offering.

Following the closing of this offering, our authorized capital stock will consist of 200,000,000 shares of common stock, par value $0.01 per share, and 10,000,000 shares of preferred stock, par value $0.01 per share.

As of March 31, 2020, there were 4,998,874 shares of our common stock outstanding held of record by 5 stockholders, 3,679,778 shares of Series A Preferred Stock held of record by 13 stockholders, and 3,750,674 shares of Series B Preferred Stock held of record by 13 stockholders.

Common Stock

Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders and do not have cumulative voting rights. An election of directors by our stockholders shall be determined by a plurality of the votes cast by the stockholders entitled to vote on the election. Subject to the supermajority votes for some matters, other matters shall be decided by the affirmative vote of our stockholders having a majority in voting power of the votes cast by the stockholders present or represented and voting on such matter. Our restated certificate of incorporation and restated bylaws also provide that our directors may be removed only for cause and only by the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock entitled to vote thereon. In addition, the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock entitled to vote thereon is required to amend or repeal, or to adopt any provision inconsistent with, several of the provisions of our restated certificate of incorporation. See below under "—Anti-Takeover Effects of Delaware Law and Our Certificate of Incorporation and Bylaws—Amendment of Charter Provisions." Holders of common stock are entitled to receive proportionately any dividends as may be declared by our board of directors, subject to any preferential dividend rights of any series of preferred stock that we may designate and issue in the future.

In the event of our liquidation or dissolution, the holders of common stock are entitled to receive proportionately our net assets available for distribution to stockholders after the payment of all debts and other liabilities and subject to the prior rights of any outstanding preferred stock. Holders of common stock have no preemptive, subscription, redemption or conversion rights. Our outstanding shares of common stock are, and the shares offered by us in this offering will be, when issued and paid for, validly issued, fully paid and nonassessable. The rights, preferences and privileges of holders of common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Preferred Stock

Under the terms of our restated certificate of incorporation that will become effective upon the closing of this offering, our board of directors is authorized to direct us to issue shares of preferred stock in one or more series without stockholder approval. Our board of directors has the discretion to determine the rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences, of each series of preferred stock.

The purpose of authorizing our board of directors to issue preferred stock and determine its rights and preferences is to eliminate delays associated with a stockholder vote on specific issuances. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions, future financings and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or could discourage a third party from seeking to acquire, a majority of our outstanding voting stock. Upon the closing of this offering, there will be no shares of preferred stock outstanding, and we have no present plans to issue any shares of preferred stock.

Options

As of March 31, 2020, options to purchase 652,187 shares of our common stock were outstanding under our 2017 Plan. Additionally, 47,299 shares of common stock issuable upon the exercise of stock options will be granted in connection with this offering under the 2017 Plan, to certain of our executive officers and employees, at an exercise price per share equal to the initial public offering price in this offering.

Registration Rights

Holders of 6,895,426 shares of our common stock are entitled to certain rights with respect to the registration of such shares for public resale under the Securities Act, pursuant to an amended and restated investors' rights agreement by and among us and certain of our stockholders, until the rights otherwise terminate pursuant to the terms of the investors' rights agreement. The registration of shares of common stock as a result of the following rights being exercised would enable holders to trade these shares without restriction under the Securities Act when the applicable registration statement is declared effective.

Form S-1 Registration Rights

If at any time after six months after the closing date of this offering, the holders of at least 30% of the registrable securities then outstanding request in writing that we effect a registration with respect to at least 30% of the registrable securities then outstanding, having an anticipated aggregate offering amount, net of expenses, of at least $10,000,000, we may be required to register their shares. We are obligated to effect at most two registrations in response to these demand registration rights. If the holders requesting registration intend to distribute their shares by means of an underwriting, the managing underwriter of such offering will have the right to limit the numbers of shares to be underwritten for reasons related to the marketing of the shares.

Piggyback Registration Rights

If at any time after this offering we propose to register any shares of our common stock under the Securities Act, subject to certain exceptions, the holders of registrable securities will be entitled to notice of the registration and to include their shares of registrable securities in the registration. If our proposed registration involves an underwriting, the managing underwriter of such offering will have the right to limit the number of shares to be underwritten for reasons related to the marketing of the shares.

Form S-3 Registration Rights

If, at any time after we become entitled under the Securities Act to register our shares on a registration statement on Form S-3, the holders of at least 20% of the registrable securities then outstanding request in writing that we effect a registration with respect to all or part of such registrable securities then outstanding and having an anticipated aggregate offering amount, net of expenses, of at least $3,000,000, we will be required to effect such registration.

Expenses and Indemnification

Ordinarily, other than underwriting discounts and commissions, we will be required to pay all expenses incurred by us related to any registration effected pursuant to the exercise of these registration rights. These

expenses may include all registration and filing fees, printing expenses, fees and disbursements of our counsel, reasonable fees and disbursements of a counsel for the selling securityholders and blue sky fees and expenses. Additionally, we have agreed to indemnify selling stockholders for damages, and any legal or other expenses reasonably incurred, arising from or based upon any untrue statement of a material fact contained in any registration statement, an omission or alleged omission to state a material fact in any registration statement or necessary to make the statements therein not misleading, or any violation or alleged violation by the indemnifying party of securities laws, subject to certain exceptions.

Termination of Registration Rights

The registration rights terminate upon the earlier of the date that is five years after the closing of this offering, such time as Rule 144 or another similar exemption under the Securities Act is available for the sale of all of such holders' shares without limitation during a three-month period without registration and the closing of a deemed liquidation event, as defined in the investors' rights agreement.

Anti-Takeover Effects of Delaware Law and Our Certificate of Incorporation and Bylaws

Some provisions of Delaware law, our restated certificate of incorporation and our restated bylaws could make the following transactions more difficult: an acquisition of us by means of a tender offer; an acquisition of us by means of a proxy contest or otherwise; or the removal of our incumbent officers and directors. It is possible that these provisions could make it more difficult to accomplish or could deter transactions that stockholders may otherwise consider to be in their best interest or in our best interests, including transactions which provide for payment of a premium over the market price for our shares.

These provisions, summarized below, are intended to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors. We believe that the benefits of the increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us outweigh the disadvantages of discouraging these proposals because negotiation of these proposals could result in an improvement of their terms.

Undesignated Preferred Stock

The ability of our board of directors, without action by the stockholders, to issue up to 10,000,000 shares of undesignated preferred stock with voting or other rights or preferences as designated by our board of directors could impede the success of any attempt to change control of us. These and other provisions may have the effect of deferring hostile takeovers or delaying changes in control or management of our company.

Stockholder Meetings

Our restated bylaws provide that a special meeting of stockholders may be called only by our chairman of the board, chief executive officer or president (in the absence of a chief executive officer), or by a resolution adopted by a majority of our board of directors.

Requirements for Advance Notification of Stockholder Nominations and Proposals

Our restated bylaws establish advance notice procedures with respect to stockholder proposals to be brought before a stockholder meeting and the nomination of candidates for election as directors, other than nominations made by or at the direction of the board of directors or a committee of the board of directors.

Elimination of Stockholder Action by Written Consent

Our restated certificate of incorporation eliminates the right of stockholders to act by written consent without a meeting.

Staggered Board

Our board of directors is divided into three classes. The directors in each class will serve for a three-year term, one class being elected each year by our stockholders. For more information on the classified board, see "Management—Board Composition and Election of Directors." This system of electing and removing directors may tend to discourage a third party from making a tender offer or otherwise attempting to obtain control of us, because it generally makes it more difficult for stockholders to replace a majority of the directors.

Removal of Directors

Our restated certificate of incorporation provides that no member of our board of directors may be removed from office by our stockholders except for cause and, in addition to any other vote required by law, upon the approval of the holders of at least two-thirds in voting power of the outstanding shares of stock entitled to vote in the election of directors.

Stockholders Not Entitled to Cumulative Voting

Our restated certificate of incorporation does not permit stockholders to cumulate their votes in the election of directors. Accordingly, the holders of a majority of the outstanding shares of our common stock entitled to vote in any election of directors can elect all of the directors standing for election, if they choose, other than any directors that holders of our preferred stock may be entitled to elect.

Delaware Anti-Takeover Statute

We are subject to Section 203 of the General Corporation Law of the State of Delaware, which prohibits persons deemed to be "interested stockholders" from engaging in a "business combination" with a publicly held Delaware corporation for three years following the date these persons become interested stockholders unless the business combination is, or the transaction in which the person became an interested stockholder was, approved in a prescribed manner or another prescribed exception applies. Generally, an "interested stockholder" is a person who, together with affiliates and associates, owns, or within three years prior to the determination of interested stockholder status did own, 15% or more of a corporation's voting stock. Generally, a "business combination" includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. The existence of this provision may have an anti-takeover effect with respect to transactions not approved in advance by the board of directors.

Choice of Forum

Our restated certificate of incorporation provides that, unless we consent in writing to the selection of an alternative form, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for: (1) any derivative action or proceeding brought on our behalf; (2) any action asserting a claim of breach of a fiduciary duty or other wrongdoing by any of our directors, officers, employees or agents to us or our stockholders; (3) any action asserting a claim against us arising pursuant to any provision of the General Corporation Law of the State of Delaware or our certificate of incorporation or bylaws; (4) any action to interpret, apply, enforce or determine the validity of our certificate of incorporation or bylaws; or (5) any action asserting a claim governed by the internal affairs doctrine. Under our restated certificate of incorporation, this exclusive forum provision will not apply to claims which are vested in the exclusive jurisdiction of a court or forum other than the Court of Chancery of the State of Delaware, or for which the Court of Chancery of the State of Delaware does not have subject matter jurisdiction. For instance, the provision would not apply to actions arising under federal securities laws, including suits brought to enforce any liability or duty created by the Securities Act, Exchange Act, or the rules and regulations thereunder. Our restated certificate of incorporation further provides that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States of America shall, to the fullest extent permitted by law, be the sole and exclusive forum for the resolution of any complaint

asserting a cause of action arising under the Securities Act. Our restated certificate of incorporation also provides that any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock will be deemed to have notice of and to have consented to these choice of forum provisions. It is possible that a court of law could rule that either or both of the choice of forum provisions contained in our restated certificate of incorporation is inapplicable or unenforceable if it is challenged in a proceeding or otherwise.

Amendment of Charter Provisions

The amendment of any of the above provisions, except for the provision making it possible for our board of directors to issue preferred stock and the provision prohibiting cumulative voting, would require approval by holders of at least two-thirds in voting power of the outstanding shares of stock entitled to vote thereon.

The provisions of Delaware law, our restated certificate of incorporation and our restated bylaws could have the effect of discouraging others from attempting hostile takeovers and, as a consequence, they may also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions may also have the effect of preventing changes in the composition of our board and management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders may otherwise deem to be in their best interests.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock will be American Stock Transfer & Trust Company, LLC.

Stock Exchange Listing

We have applied to have our common stock listed on The Nasdaq Global Market under the symbol “AYLA.”

SHARES ELIGIBLE FOR FUTURE SALE

Immediately prior to this offering, there was no public market for our common stock. Future sales of substantial amounts of common stock in the public market, or the perception that such sales may occur, could adversely affect the market price of our common stock.

Upon the closing of this offering, we will have outstanding an aggregate of 12,113,278 shares of common stock, assuming the issuance of 3,333,334 shares of common stock offered by us in this offering, the automatic conversion of all outstanding shares of our preferred stock into 3,715,222 shares of our common stock and no exercise of options after March 31, 2020. Of these shares, all shares sold in this offering will be freely tradable without restriction or further registration under the Securities Act, except for any shares purchased by our "affiliates," as that term is defined in Rule 144 under the Securities Act, whose sales would be subject to the Rule 144 resale restrictions described below, other than the holding period requirement.

The remaining 8,632,807 shares of common stock will be "restricted securities," as that term is defined in Rule 144 under the Securities Act. These restricted securities are eligible for public sale only if they are registered under the Securities Act or if they qualify for an exemption from registration under Rules 144 or 701 under the Securities Act, which are summarized below. We expect that substantially all of these shares will be subject to the 180-day lock-up period under the lock-up agreements described below. Upon expiration of the lock-up period, we estimate that approximately 8,632,807 shares will be available for sale in the public market, subject in some cases to applicable volume limitations under Rule 144.

In addition, of the 652,187 shares of our common stock that were subject to stock options outstanding as of March 31, 2020, options to purchase 350,876 shares of common stock were vested as of March 31, 2020 and, upon exercise, these shares will be eligible for sale subject to the lock–up agreements described below and Rules 144 and 701 under the Securities Act.

Lock-Up Agreements

We and each of our directors and executive officers and holders of approximately 93.5% of our outstanding capital stock, or securities convertible into or exchangeable for shares of our common stock, have agreed that, without the prior written consent of Citigroup Global Markets Inc. and Jefferies LLC, we and they will not, subject to certain exceptions, during the period ending 180 days after the date of this prospectus, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of our common stock or any securities convertible into or exercisable or exchangeable for common stock, or enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of our common stock, whether any transaction described above is to be settled by delivery of our common stock or such other securities, in cash or otherwise.

Upon the expiration of the applicable lock-up periods, substantially all of the shares subject to such lock-up restrictions will become eligible for sale, subject to the limitations discussed above. For a further description of these lock-up agreements, please see "Underwriting."

Rule 144

Affiliate Resales of Restricted Securities

In general, beginning 90 days after the effective date of the registration statement of which this prospectus is a part, a person who is an affiliate of ours, or who was an affiliate at any time during the 90 days before a sale, who has beneficially owned shares of our common stock for at least six months would be entitled to sell in "broker's transactions" or certain "riskless principal transactions" or to market makers, a number of shares within any three-month period that does not exceed the greater of:

- 1% of the number of shares of our common stock then outstanding, which will equal approximately 121,133 shares immediately after this offering; or

- the average weekly trading volume in our common stock on The Nasdaq Global Market during the four calendar weeks preceding the filing of a notice on Form 144 with respect to such sale.

Affiliate resales under Rule 144 are also subject to the availability of current public information about us. In addition, if the number of shares being sold under Rule 144 by an affiliate during any three-month period exceeds 5,000 shares or has an aggregate sale price in excess of $50,000, the seller must file a notice on Form 144 with the Securities and Exchange Commission and Nasdaq concurrently with either the placing of a sale order with the broker or the execution directly with a market maker.

Non-Affiliate Resales of Restricted Securities

In general, beginning 90 days after the effective date of the registration statement of which this prospectus is a part, a person who is not an affiliate of ours at the time of sale, and has not been an affiliate at any time during the three months preceding a sale, and who has beneficially owned shares of our common stock for at least six months but less than a year, is entitled to sell such shares subject only to the availability of current public information about us. If such person has held our shares for at least one year, such person can resell under Rule 144(b)(1) without regard to any Rule 144 restrictions, including the 90-day public company requirement and the current public information requirement.

Non-affiliate resales are not subject to the manner of sale, volume limitation or notice filing provisions of Rule 144.

Rule 701

In general, under Rule 701, any of an issuer's employees, directors, officers, consultants or advisors who purchases shares from the issuer in connection with a compensatory stock or option plan or other written agreement before the effective date of a registration statement under the Securities Act is entitled to sell such shares 90 days after such effective date in reliance on Rule 144. An affiliate of the issuer can resell shares in reliance on Rule 144 without having to comply with the holding period requirement, and non-affiliates of the issuer can resell shares in reliance on Rule 144 without having to comply with the current public information and holding period requirements.

The Securities and Exchange Commission has indicated that Rule 701 will apply to typical stock options granted by an issuer before it becomes subject to the reporting requirements of the Exchange Act, along with the shares acquired upon exercise of such options, including exercises after an issuer becomes subject to the reporting requirements of the Exchange Act.

Equity Plans

We intend to file one or more registration statements on Form S-8 under the Securities Act to register all shares of common stock subject to outstanding stock options and common stock issued or issuable under our stock plans. We expect to file the registration statement covering shares offered pursuant to our stock plans shortly after the date of this prospectus, permitting the resale of such shares by non-affiliates in the public market without restriction under the Securities Act and the sale by affiliates in the public market, subject to compliance with the resale provisions of Rule 144.

Registration Rights

Upon the closing of this offering, the holders of 6,895,426 shares of common stock, which includes all of the shares of common stock issuable upon the automatic conversion of our preferred stock upon the closing of this offering, or their transferees will be entitled to various rights with respect to the registration of these shares under the Securities Act. Registration of these shares under the Securities Act would result in these shares becoming fully tradable without restriction under the Securities Act immediately upon the effectiveness of the registration, except for shares purchased by affiliates. See “Description of Capital Stock—Registration Rights” for additional information. Shares covered by a registration statement will be eligible for sale in the public market upon the expiration or release from the terms of the lock-up agreement described above.

MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES TO NON-U.S. HOLDERS

The following discussion is a summary of the material U.S. federal income tax consequences to Non-U.S. Holders (as defined below) of the purchase, ownership and disposition of our common stock issued pursuant to this offering, but does not purport to be a complete analysis of all potential tax effects. The effects of other U.S. federal tax laws, such as estate and gift tax laws, and any applicable state, local or non-U.S. tax laws are not discussed. This discussion is based on the U.S. Internal Revenue Code of 1986, as amended, or the Code, Treasury Regulations promulgated thereunder, judicial decisions, and published rulings and administrative pronouncements of the U.S. Internal Revenue Service, or the IRS, in each case in effect as of the date hereof. These authorities may change or be subject to differing interpretations. Any such change or differing interpretation may be applied retroactively in a manner that could adversely affect a Non-U.S. Holder of our common stock. We have not sought and will not seek any rulings from the IRS regarding the matters discussed below. There can be no assurance the IRS or a court will not take a contrary position to that discussed below regarding the tax consequences of the purchase, ownership, and disposition of our common stock.

This discussion is limited to Non-U.S. Holders that hold our common stock as a "capital asset" within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all U.S. federal income tax consequences relevant to a Non-U.S. Holder's particular circumstances, including the impact of the Medicare contribution tax on net investment income. In addition, it does not address consequences relevant to Non-U.S. Holders subject to special rules, including, without limitation:

- U.S. expatriates and former citizens or long-term residents of the United States;
- persons subject to the alternative minimum tax;
- persons holding our common stock as part of a hedge, straddle, or other risk reduction strategy or as part of a conversion transaction or other integrated investment;
- banks, insurance companies, and other financial institutions;
- brokers, dealers, or traders in securities;
- "controlled foreign corporations," "passive foreign investment companies," and corporations that accumulate earnings to avoid U.S. federal income tax;
- partnerships or other entities or arrangements treated as partnerships for U.S. federal income tax purposes (and investors therein);
- tax-exempt organizations or governmental organizations;
- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- persons who hold or receive our common stock pursuant to the exercise of any employee stock option or otherwise as compensation;
- tax-qualified retirement plans;
- "qualified foreign pension funds" as defined in Section 897(l)(2) of the Code and entities all of the interests of which are held by qualified foreign pension funds; and
- persons subject to special tax accounting rules as a result of any item of gross income with respect to the stock being taken into account in an applicable financial statement.

If an entity treated as a partnership for U.S. federal income tax purposes holds our common stock, the tax treatment of a partner in the partnership will depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. Accordingly, partnerships holding our common stock and the partners in such partnerships should consult their tax advisors regarding the U.S. federal income tax consequences to them.

INVESTORS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSEQUENCES OF THE PURCHASE, OWNERSHIP AND DISPOSITION OF OUR COMMON STOCK ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL OR NON-U.S. TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

Definition of a Non-U.S. Holder

For purposes of this discussion, a "Non-U.S. Holder" is any beneficial owner of our common stock that is neither a "U.S. person" nor an entity treated as a partnership for U.S. federal income tax purposes. A U.S. person is any person that, for U.S. federal income tax purposes, is or is treated as any of the following:

- an individual who is a citizen or resident of the United States;
- a corporation created or organized under the laws of the United States, any state thereof, or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust that (i) is subject to the primary supervision of a U.S. court and the control of one or more "United States persons" (within the meaning of Section 7701(a)(30) of the Code) or (ii) has a valid election in effect to be treated as a United States person for U.S. federal income tax purposes.

Distributions

As described in the section entitled "Dividend Policy," we do not anticipate declaring or paying dividends to holders of our common stock in the foreseeable future. However, if we do make distributions of cash or property on our common stock, such distributions will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Amounts not treated as dividends for U.S. federal income tax purposes will constitute a return of capital and first be applied against and reduce a Non-U.S. Holder's adjusted tax basis in its common stock, but not below zero. Any excess will be treated as capital gain and will be treated as described below under "—Sale or Other Taxable Disposition."

Subject to the discussion below on effectively connected income, dividends paid to a Non-U.S. Holder of our common stock will be subject to U.S. federal withholding tax at a rate of 30% of the gross amount of the dividends (or such lower rate specified by an applicable income tax treaty, provided the Non-U.S. Holder furnishes a valid IRS Form W-8BEN or W-8BEN-E (or other applicable documentation) certifying qualification for the lower treaty rate). A Non-U.S. Holder that does not timely furnish the required documentation, but that qualifies for a reduced treaty rate, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. Non-U.S. Holders should consult their tax advisors regarding their entitlement to benefits under any applicable income tax treaty.

If dividends paid to a Non-U.S. Holder are effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-U.S. Holder maintains a permanent establishment in the United States to which such dividends are attributable), the Non-U.S. Holder will be exempt from the U.S. federal withholding tax described above. To claim the exemption, the Non-U.S. Holder must furnish to the applicable withholding agent a valid IRS Form W-8ECI, certifying that the dividends are effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States.

Any such effectively connected dividends will be subject to U.S. federal income tax on a net income basis at the regular graduated rates, applicable to U.S. persons. A Non-U.S. Holder that is a corporation also may be

subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected dividends, as adjusted for certain items. Non-U.S. Holders should consult their tax advisors regarding any applicable tax treaties that may provide for different rules.

Sale or Other Taxable Disposition

A Non-U.S. Holder will not be subject to U.S. federal income tax on any gain realized upon the sale or other taxable disposition of our common stock unless:

- the gain is effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-U.S. Holder maintains a permanent establishment in the United States to which such gain is attributable);
- the Non-U.S. Holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of the disposition and certain other requirements are met; or
- our common stock constitutes a U.S. real property interest, or USRPI, by reason of our status as a U.S. real property holding corporation, or USRPHC, for U.S. federal income tax purposes.

Gain described in the first bullet point above generally will be subject to U.S. federal income tax on a net income basis at the regular graduated rates, applicable to U.S. persons. A Non-U.S. Holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected gain, as adjusted for certain items.

Gain described in the second bullet point above will be subject to U.S. federal income tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty), which may be offset by U.S. source capital losses of the Non-U.S. Holder (even though the individual is not considered a resident of the United States), provided the Non-U.S. Holder has timely filed U.S. federal income tax returns with respect to such losses.

With respect to the third bullet point above, we believe we currently are not, and do not anticipate becoming, a USRPHC. Because the determination of whether we are a USRPHC depends, however, on the fair market value of our USRPIs relative to the fair market value of our non-U.S. real property interests and our other business assets, there can be no assurance we currently are not a USRPHC or will not become one in the future. Even if we are or were to become a USRPHC, gain arising from the sale or other taxable disposition by a Non-U.S. Holder of our common stock will not be subject to U.S. federal income tax if our common stock is "regularly traded," as defined by applicable Treasury Regulations, on an established securities market, and such Non-U.S. Holder owned, actually and constructively, 5% or less of our common stock throughout the shorter of the five-year period ending on the date of the sale or other taxable disposition or the Non-U.S. Holder's holding period.

Non-U.S. Holders should consult their tax advisors regarding potentially applicable income tax treaties that may provide for different rules.

Information Reporting and Backup Withholding

Payments of dividends on our common stock will not be subject to backup withholding, provided the applicable withholding agent does not have actual knowledge or reason to know the holder is a United States person and the holder either certifies its non-U.S. status, such as by furnishing a valid IRS Form W-8BEN, W-8BEN-E, or W-8ECI, or otherwise establishes an exemption. However, information returns are required to be filed with the IRS in connection with any dividends on our common stock paid to the Non-U.S. Holder, regardless of whether any tax was actually withheld. In addition, proceeds of the sale or other taxable disposition of our common stock within the United States or conducted through certain U.S.-related brokers generally will not be subject to backup withholding or information reporting, if the applicable withholding agent receives the

certification described above and does not have actual knowledge or reason to know that such holder is a United States person, or the holder otherwise establishes an exemption. Proceeds of a disposition of our common stock conducted through a non-U.S. office of a non-U.S. broker generally will not be subject to backup withholding or information reporting.

Copies of information returns that are filed with the IRS may also be made available under the provisions of an applicable treaty or agreement to the tax authorities of the country in which the Non-U.S. Holder resides or is established.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a Non-U.S. Holder's U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

Additional Withholding Tax on Payments Made to Foreign Accounts

Withholding taxes may be imposed under Sections 1471 to 1474 of the Code (such Sections commonly referred to as the Foreign Account Tax Compliance Act, or FATCA) on certain types of payments made to non-U.S. financial institutions and certain other non-U.S. entities. Specifically, a 30% withholding tax may be imposed on dividends on, or (subject to the proposed Treasury Regulations discussed below) gross proceeds from the sale or other disposition of, our common stock paid to a "foreign financial institution" or a "non-financial foreign entity" (each as defined in the Code), unless (i) the foreign financial institution undertakes certain diligence and reporting obligations, (ii) the non-financial foreign entity either certifies it does not have any "substantial United States owners" (as defined in the Code) or furnishes identifying information regarding each substantial United States owner, or (iii) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. If the payee is a foreign financial institution and is subject to the diligence and reporting requirements in (i) above, it must enter into an agreement with the U.S. Department of the Treasury requiring, among other things, that it undertake to identify accounts held by certain "specified United States persons" or "United States-owned foreign entities" (each as defined in the Code), annually report certain information about such accounts, and withhold 30% on certain payments to non-compliant foreign financial institutions and certain other account holders. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules.

Under the applicable Treasury Regulations and administrative guidance, withholding under FATCA generally applies to payments of dividends on our common stock. While withholding under FATCA would have applied also to payments of gross proceeds from the sale or other disposition of such stock proposed Treasury Regulations eliminate FATCA withholding on payments of gross proceeds entirely. Taxpayers may rely on these proposed Treasury Regulations until final Treasury Regulations are issued.

Prospective investors should consult their tax advisors regarding the potential application of withholding under FATCA to their investment in our common stock.

UNDERWRITING

Citigroup Global Markets Inc. and Jefferies LLC are acting as joint book-running managers of the offering and as representatives of the underwriters named below. Subject to the terms and conditions stated in the underwriting agreement dated the date of this prospectus, each underwriter named below has severally agreed to purchase, and we have agreed to sell to that underwriter, the number of shares set forth opposite the underwriter's name.

Underwriter	Number of Shares
Citigroup Global Markets Inc.	
Jefferies LLC	
Oppenheimer & Co. Inc.	
Raymond James & Associates, Inc.	
Total	3,333,334

The underwriting agreement provides that the obligations of the underwriters to purchase the shares included in this offering are subject to approval of legal matters by counsel and to other conditions. The underwriters are obligated to purchase all the shares (other than those covered by the option to purchase additional shares of our common stock described below) if they purchase any of the shares.

Shares sold by the underwriters to the public will initially be offered at the initial public offering price set forth on the cover page of this prospectus. Any shares sold by the underwriters to securities dealers may be sold at a discount from the initial public offering price not to exceed $ per share. If all the shares are not sold at the initial offering price, the underwriters may change the offering price and the other selling terms. The representatives have advised us that the underwriters do not intend to make sales to discretionary accounts.

If the underwriters sell more shares than the total number set forth in the table above, we have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus, to purchase up to additional shares at the public offering price less the underwriting discounts and commissions. The underwriters may exercise the option solely for the purpose of covering over-allotments, if any, in connection with this offering. To the extent the option is exercised, each underwriter must purchase a number of additional shares approximately proportionate to that underwriter's initial purchase commitment. Any shares issued or sold under the option will be issued and sold on the same terms and conditions as the other shares that are the subject of this offering.

We and each of our directors, executive officers and holders of approximately 93.5% of our outstanding shares of common stock, or securities convertible into or exchangeable for shares of our common stock have agreed that, for a period of 180 days from the date of this prospectus, we and they will not, without the prior written consent of Citigroup Global Markets Inc. and Jefferies LLC, dispose of or hedge any shares or any securities convertible into or exchangeable for our common stock. Citigroup Global Markets Inc. and Jefferies LLC in their sole discretion may release any of the securities subject to these lock-up agreements at any time, which, in the case of officers and directors, shall be with notice.

The restrictions described above do not apply to our officers, directors and other existing stockholders, subject to certain restrictions, with respect to:

- transfers of shares of common stock or other securities acquired in this offering or in open market transactions on or after the completion of this offering;
- *bona fide* gifts or charitable contributions;
- transfers to a trust for the direct or indirect benefit of the officer, director or other existing stockholder or the immediate family of such person, including by will or intestate succession;

- distributions or other transfers by a partnership to its partners or by a limited liability company to its members or by a corporation to its stockholders or to any wholly-owned subsidiary of such corporation;
- transfers to an affiliate of the officer, director or other existing stockholder, including investment funds or other entities under common control or management that are affiliates of such person;
- transfers to us in connection with the termination of employment with us or pursuant to agreements under which we have the option to repurchase such shares;
- the exercise of any option to purchase shares of common stock pursuant to our stock incentive plans or stock purchase plans described in this prospectus;
- the conversion of outstanding preferred stock into shares of common stock, provided that any such shares received upon such conversion shall be subject to the restrictions on transfer set forth above;
- transfers by operation of law pursuant to a court order or a settlement agreement related to the distribution of assets in connection with the dissolution of a marriage or civil union;
- transfers to us to cover tax withholdings upon a vesting event of any equity award granted under our stock incentive plans or stock purchase plans described in this prospectus;
- the establishment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of common stock, provided that such plan does not provide for any transfers or dispositions during the restricted period; and
- transfers pursuant to a *bona fide* third-party tender offer, merger, consolidation or other similar transaction made to all of our stockholders involving a change of control that has been approved by our board of directors.

The restrictions described above do not apply to us, subject to certain restrictions, with respect to:

- the issuance and sale of shares of common stock in this offering;
- the issuance and sale of shares of common stock pursuant to our employee stock option plans, stock ownership plans or dividend reinvestment plans described in this prospectus;
- the issuance shares of common stock upon the conversion of securities or the exercise of warrants outstanding as of the date of this prospectus;
- the issuance and sale of shares of common stock pursuant to one or more registration statements on Form S-8 relating to our employee stock option plans, stock ownership plans or dividend reinvestment plans described in this prospectus; and
- the issuance of shares of common stock in connection with a merger, joint venture, strategic alliance, commercial or other collaborative transaction, or the acquisition or license of the business, property, technology or other assets of another individual or entity, or the assumption of an employee benefit plan in connection with such a merger or acquisition, provided that the aggregate number of shares of common stock issued does not exceed 5.0% of the total outstanding shares of common stock immediately following the issuance.

Prior to this offering, there has been no public market for our shares. Consequently, the initial public offering price for the shares was determined by negotiations between us and the representatives. Among the factors considered in determining the initial public offering price were our results of operations, our current financial condition, our future prospects, our markets, the economic conditions in and future prospects for the industry in which we compete, our management, and currently prevailing general conditions in the equity securities markets, including current market valuations of publicly traded companies considered comparable to our company. We cannot assure you, however, that the price at which the shares will sell in the public market after this offering will not be lower than the initial public offering price or that an active trading market in our shares will develop and continue after this offering.

We have applied to have our shares listed on The Nasdaq Global Market under the symbol "AYLA."

The following table shows the underwriting discounts and commissions that we are to pay to the underwriters in connection with this offering. These amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase additional shares of our common stock.

	No Exercise	Full Exercise
Per share	$	$
Total	$	$

We estimate that our portion of the total expenses of this offering will be approximately $2.1 million. We have agreed to reimburse the underwriters for expenses relating to clearance of this offering with the Financial Industry Regulatory Authority up to $35,000.

In connection with the offering, the underwriters may purchase and sell shares in the open market. Purchases and sales in the open market may include short sales, purchases to cover short positions, which may include purchases pursuant to the option to purchase additional shares of our common stock, and stabilizing purchases.

- Short sales involve secondary market sales by the underwriters of a greater number of shares than they are required to purchase in the offering.
  - "Covered" short sales are sales of shares in an amount up to the number of shares represented by the underwriters' option to purchase additional shares of our common stock.
  - "Naked" short sales are sales of shares in an amount in excess of the number of shares represented by the underwriters' option to purchase additional shares of our common stock.
- Covering transactions involve purchases of shares either pursuant to the underwriters' option to purchase additional shares of our common stock or in the open market in order to cover short positions.
  - To close a naked short position, the underwriters must purchase shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the shares in the open market after pricing that could adversely affect investors who purchase in the offering.
  - To close a covered short position, the underwriters must purchase shares in the open market or must exercise the option to purchase additional shares of our common stock. In determining the source of shares to close the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option to purchase additional shares of our common stock.
- Stabilizing transactions involve bids to purchase shares so long as the stabilizing bids do not exceed a specified maximum.

Purchases to cover short positions and stabilizing purchases, as well as other purchases by the underwriters for their own accounts, may have the effect of preventing or retarding a decline in the market price of the shares. They may also cause the price of the shares to be higher than the price that would otherwise exist in the open market in the absence of these transactions. The underwriters may conduct these transactions on the Nasdaq Global Market, in the over-the-counter market or otherwise. If the underwriters commence any of these transactions, they may discontinue them at any time.

Conflicts of Interest

The underwriters are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal

investment, hedging, financing and brokerage activities. The underwriters and their respective affiliates have in the past performed commercial banking, investment banking and advisory services for us from time to time for which they have received customary fees and reimbursement of expenses and may, from time to time, engage in transactions with and perform services for us in the ordinary course of their business for which they may receive customary fees and reimbursement of expenses. In the ordinary course of their various business activities, the underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (which may include bank loans and/or credit default swaps) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make because of any of those liabilities.

Notice to Prospective Investors in Canada

The shares of our common stock offered in this prospectus may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the *Securities Act (Ontario)*, and are permitted clients, as defined in National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*. Any resale of the shares must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 *Underwriting Conflicts* (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Notice to Prospective Investors in the European Economic Area and United Kingdom

In relation to each member state of the European Economic Area and the United Kingdom (each a "Relevant State"), no shares have been offered or will be offered to the public in that Relevant State prior to the publication of a prospectus in relation to the shares which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation, except that offers of the shares may be made to the public in that Relevant State at any time under the following exemptions under the Prospectus Regulation:

- to any legal entity which is a qualified investor as defined under the Prospectus Regulation;
- to fewer than 150 natural or legal persons (other than qualified investors as defined under the Prospectus Regulation), subject to obtaining the prior consent of the representatives for any such offer; or
- in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of shares shall require us or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

For the purposes of this provision, the expression an "offer to the public" in relation to any shares in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase or subscribe for the shares, and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129.

Notice to Prospective Investors in the United Kingdom

This prospectus is being distributed only to, and is directed only at, and any offer subsequently made may only be directed at persons who are "qualified investors" (as defined in the Prospectus Regulation) (i) who have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the "Order") and/or (ii) who are high net worth companies (or persons to whom it may otherwise be lawfully communicated) falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as "relevant persons") or otherwise in circumstances which have not resulted and will not result in an offer to the public of the shares in the United Kingdom within the meaning of the Financial Services and Markets Act 2000.

Any person in the United Kingdom that is not a relevant person should not act or rely on the information included in this document or use it as basis for taking any action. In the United Kingdom, any investment or investment activity that this document relates to may be made or taken exclusively by relevant persons.

Notice to Prospective Investors in France

Neither this prospectus nor any other offering material relating to the shares described in this prospectus has been submitted to the clearance procedures of the *Autorité des Marchés Financiers* or of the competent authority of another member state of the European Economic Area and notified to the *Autorité des Marchés Financiers*. The shares have not been offered or sold and will not be offered or sold, directly or indirectly, to the public in France. Neither this prospectus nor any other offering material relating to the shares has been or will be:

- released, issued, distributed or caused to be released, issued or distributed to the public in France; or
- used in connection with any offer for subscription or sale of the shares to the public in France.

Such offers, sales and distributions will be made in France only:

- to qualified investors (*investisseurs qualifiés*) and/or to a restricted circle of investors (*cercle restreint d'investisseurs*), in each case investing for their own account, all as defined in, and in accordance with articles L.411-2, D.411-1, D.411-2, D.734-1, D.744-1, D.754-1 and D.764-1 of the French *Code monétaire et financier*;
- to investment services providers authorized to engage in portfolio management on behalf of third parties; or
- in a transaction that, in accordance with article L.411-2-II-1°-or-2°-or 3° of the French *Code monétaire et financier* and article 211-2 of the General Regulations (*Règlement Général*) of the *Autorité des Marchés Financiers*, does not constitute a public offer (*appel public à l'épargne*).

The shares may be resold directly or indirectly, only in compliance with articles L.411-1, L.411-2, L.412-1 and L.621-8 through L.621-8-3 of the French *Code monétaire et financier*.

Notice to Prospective Investors in Israel

The shares offered by this prospectus have not been approved or disapproved by the Israel Securities Authority, or ISA, nor have such shares been registered for sale in Israel. The shares may not be offered or sold,

directly or indirectly, to the public in Israel, absent the publication of a prospectus that has been approved by the ISA. The ISA has not issued permits, approvals or licenses in connection with this offering or publishing this prospectus, nor has it authenticated the details included herein, confirmed their reliability or completeness, or rendered an opinion as to the quality of the shares being offered.

This document does not constitute a prospectus under the Israeli Securities Law and has not been filed with or approved by the ISA. In the State of Israel, this document may be distributed only to, and may be directed only at, and any offer of the shares may be directed only at investors listed in the first addendum to the Israeli Securities Law, or the Addendum, consisting primarily of joint investment in trust funds, provident funds, insurance companies, banks, portfolio managers, investment advisors, members of the Tel Aviv Stock Exchange Ltd., underwriters, venture capital funds, entities with equity in excess of NIS 50 million and "qualified individuals," each as defined in the Addendum (as it may be amended from time to time), collectively referred to as qualified investors (in each case purchasing for their own account or, where permitted under the Addendum, for the accounts of their clients who are investors listed in the Addendum). Qualified investors will be required to submit written confirmation that they fall within the scope of the Addendum, are aware of the meaning of same and agree to it.

Notice to Prospective Investors in Hong Kong

The shares may not be offered or sold in Hong Kong by means of any document other than (i) in circumstances which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong), or (ii) to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder, or (iii) in other circumstances which do not result in the document being a "prospectus" within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong) and no advertisement, invitation or document relating to the shares may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder.

Notice to Prospective Investors in Japan

The shares offered in this prospectus have not been and will not be registered under the Financial Instruments and Exchange Law of Japan. The shares have not been offered or sold and will not be offered or sold, directly or indirectly, in Japan or to or for the account of any resident of Japan (including any corporation or other entity organized under the laws of Japan), except (i) pursuant to an exemption from the registration requirements of the Financial Instruments and Exchange Law and (ii) in compliance with any other applicable requirements of Japanese law.

Notice to Prospective Investors in Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares may not be circulated or distributed, nor may the shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore (the "SFA"), (ii) to a relevant person pursuant to Section 275(1), or any person pursuant to Section 275(1A), and in accordance with the conditions specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA, in each case subject to compliance with conditions set forth in the SFA.

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

shares, debentures and units of shares and debentures of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares pursuant to an offer made under Section 275 of the SFA except:

- to an institutional investor (for corporations, under Section 274 of the SFA) or to a relevant person defined in Section 275(2) of the SFA, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;
- where no consideration is or will be given for the transfer;
- where the transfer is by operation of law;
- as specified in Section 276(7) of the SFA; or
- as specified in Regulation 32 of the Securities and Futures (Offers of Investments) (Shares and Debentures) Regulations 2005 of Singapore.

Singapore Securities and Futures Act Product Classification: Solely for the purposes of our obligations pursuant to Sections 309B(1)(a) and 309B(1)(c) of the SFA, we have determined, and hereby notify all relevant persons (as defined in Section 309A of the SFA), that the shares are "prescribed capital markets products" (as defined in the Securities and Futures (Capital Markets Products) Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

LEGAL MATTERS

The validity of the shares of common stock offered hereby will be passed upon for us by Latham & Watkins LLP. Certain legal matters will be passed upon for the underwriters by Davis Polk & Wardwell LLP.

EXPERTS

The consolidated financial statements of Ayala Pharmaceuticals, Inc. at December 31, 2018 and 2019, and for the years then ended, appearing in this prospectus and registration statement have been audited by Kost Forer Gabbay & Kasierer, a member of Ernst & Young Global, independent registered public accounting firm, as set forth in their report thereon appearing elsewhere herein, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the Securities and Exchange Commission a registration statement on Form S-1 under the Securities Act with respect to the shares of common stock offered hereby. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement or the exhibits and schedules filed therewith. For further information about us and the common stock offered hereby, we refer you to the registration statement and the exhibits and schedules filed thereto. Statements contained in this prospectus regarding the contents of any contract or any other document that is filed as an exhibit to the registration statement are not necessarily complete, and each such statement is qualified in all respects by reference to the full text of such contract or other document filed as an exhibit to the registration statement. Upon completion of this offering, we will be required to file periodic reports, proxy statements, and other information with the Securities and Exchange Commission pursuant to the Securities Exchange Act of 1934. The Securities and Exchange Commission maintains an Internet website that contains reports, proxy statements and other information about registrants, like us, that file electronically with the Securities and Exchange Commission. The address of that site is *www.sec.gov*.

We also maintain a website at *www.ayalapharma.com*. The information contained in, or accessible through, our website does not constitute a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

AYALA PHARMACEUTICALS, INC.

INDEX TO FINANCIAL STATEMENTS

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Report of Independent Registered Public Accounting Firm
To the Stockholders and the Board of Directors of

AYALA PHARMACEUTICALS, INC.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Ayala Pharmaceuticals, Inc. (the "Company") as of December 31, 2019 and 2018, and the related consolidated statements of operations, changes in stockholders' deficit and cash flows for each of the two years in the period ended December 31, 2019 and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles.

The Company's Ability to Continue as a Going Concern

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1e to the consolidated financial statements, the Company has suffered recurring losses from operations, has a negative cash-flow from operating activities, and has stated that substantial doubt exists about the Company's ability to continue as a going concern. Management's evaluation of the events and conditions and management's plans regarding these matters are also described in Note 1e. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatements, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal controls over financial reporting. As part of our audit we are required to obtain an understanding of internal controls over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal controls over financial reporting. Accordingly, we express no such opinion.

Our audit included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.

Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Tel-Aviv, Israel
March 6, 2020, except for Note 13, which is as of May 4, 2020

/s/ KOST FORER GABBAY & KASIERER
A Member of Ernst & Young Global

We have served as the Company's auditor since 2017.

AYALA PHARMACEUTICALS, INC.

CONSOLIDATED BALANCE SHEETS
U.S. dollars in thousands (except share and per share data)

	December 31, 2018	December 31, 2019	Pro Forma December 31, 2019
Assets			
Current assets:			
Cash and cash equivalents	$ 26,097	$ 16,725	$ 16,725
Short-term restricted bank deposits	167	83	83
Trade receivables	—	469	469
Prepaid expenses and other current assets	588	417	417
Total current assets	26,852	17,694	17,694
Long-term assets:			
Other assets	32	283	283
Deferred offering costs	—	656	656
Property and equipment, net	241	1,421	1,421
Total long-term assets	273	2,360	2,360
Total assets	$ 27,125	$ 20,054	$ 20,054
Liabilities, convertible preferred stock, and stockholders' deficit:			
Current liabilities:			
Trade payables	$ 951	$ 2,922	$ 2,922
Other Accounts payables	1,823	2,380	2,380
Total current liabilities	2,774	5,302	5,302
Long-term liabilities:			
Long-term rent liability	—	$ 299	$ 299
Total long-term liabilities	$ —	$ 299	$ 299
Convertible preferred stock, $0.01 par value:			
Series A Preferred Stock of $0.01 par value per share; 3,700,000 shares authorized at December 31, 2018 and 2019; 3,679,778 issued and outstanding shares at December 31, 2018 and 2019; aggregate liquidation preference value of $23,919 at December 31, 2018 and 2019	23,823	23,823	—
Series B Preferred Stock of $0.01 par value per share; 4,500,000 shares authorized at December 31, 2018 and 2019; 3,097,343 and 3,750,674 issued and outstanding shares at December 31, 2018 and 2019, respectively; aggregate liquidation preference value of $24,500 and $29,668 at December 31, 2018 and 2019, respectively	22,387	29,550	—
Total convertible preferred stock	46,210	53,373	—
Stockholders' (deficit) equity:			
Common Stock of $0.01 par value per share; 20,000,000 shares authorized at December 31, 2018 and 2019; 5,004,374 and 5,064,721 shares issued at December 31, 2018 and 2019, respectively; 4,959,667 and 4,998,874 shares outstanding at December 31, 2018 and 2019, respectively	$ 50	$ 51	$ 88
Additional paid-in capital	1,040	1,770	55,106
Accumulated deficit	(22,949)	(40,741)	(40,741)
Total stockholders' (deficit) equity	(21,859)	(38,920)	14,453
Total liabilities, convertible preferred stock, and stockholders' (deficit) equity	$ 27,125	$ 20,054	$ 20,054

The accompanying notes are an integral part of the consolidated financial statements.

AYALA PHARMACEUTICALS, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS
U.S. dollars in thousands (except shares and per shares data)

	Year ended December 31, 2018	Year ended December 31, 2019
Revenue from license agreement	—	2,334
Cost of revenue	—	(1,285)
Gross profit	—	1,049
Research and development	$ 5,741	$ 14,424
General and administrative	3,294	4,336
Operating loss	(9,035)	(17,711)
Financial income, net	448	225
Loss before income tax	(8,587)	(17,486)
Taxes on income	(286)	(306)
Net loss attributable to common stockholders	$ (8,873)	$ (17,792)
Net loss per share attributable to common stockholders, basic	$ (1.80)	$ (3.57)
Weighted average common shares outstanding, basic	4,935,897	4,979,606
Pro forma net loss per share attributable to common stockholders, basic and diluted	$ (1.31)	$ (2.07)
Pro forma weighted average common shares outstanding, basic and diluted	6,771,411	8,580,349

The accompanying notes are an integral part of the consolidated financial statements.

AYALA PHARMACEUTICALS, INC.

STATEMENT OF CHANGES IN STOCKHOLDERS' DEFICIT
U.S. dollars in thousands (except share amounts)

	Convertible Preferred Stock							Common Stock				
	Series A Preferred Stock		Receipts on account of Series A Preferred Stock	Series B Preferred Stock		Receivables on account of Series B Preferred Stock	Total Amount			Additional paid-in capital	Accumulated Deficit	Total Stockholders' Deficit
	Number	Amount		Number	Amount			Number	Amount			
Balance as of December 31, 2017	2,092,309	$ 13,583	$ 6,835	—	$ —	$ —	$ 20,418	4,916,834	$ 49	$ (49)	$ (13,592)	$ (13,592)
Issuance of Series A Preferred Stock, net	1,513,045	9,756	(6,835)	—	—	—	2,921	—	—	—	—	—
Issuance of Series A Preferred Stock on account of anti-dilution	74,424	484	—	—	—	—	484	—	—	—	(484)	(484)
Issuance of Series B Preferred Stock, net	—	—	—	3,097,343	24,387	(2,000)	22,387	—	—	—	—	—
Exercise of stock options	—	—	—	—	—	—	—	4,375	*	22	—	22
Share based compensation	—	—	—	—	—	—	—	38,458	1	1,067	—	1,068
Net loss	—	—	—	—	—	—	—	—	—	—	(8,873)	(8,873)
Balance as of December 31, 2018	3,679,778	$ 23,823	$ —	3,097,343	$ 24,387	$ (2,000)	46,210	4,959,667	$ 50	$ 1,040	$ (22,949)	$ (21,859)
Issuance of Series B Preferred Stock, net	—	—	—	653,331	5,163	2,000	7,163	—	—	—	—	—
Exercise of stock options	—	—	—	—	—	—	—	750	*	4	—	4
Share based compensation	—	—	—	—	—	—	—	38,457	1	726	—	727
Net loss	—	—	—	—	—	—	—	—	—	—	(17,792)	(17,792)
Balance as of December 31, 2019	3,679,778	$ 23,823	$ —	3,750,674	$ 29,550	$ —	$ 53,373	4,998,874	$ 51	$ 1,770	$ (40,741)	$ (38,920)

* Represents an amount lower than $1.

The accompanying notes are an integral part of the consolidated financial statements.

AYALA PHARMACEUTICALS, INC.

STATEMENTS OF CONSOLIDATED CASH FLOWS
U.S. dollars in thousands

	Year Ended December 31, 2018	Year Ended December 31, 2019
Cash flows from operating activities:		
Net loss	$ (8,873)	$ (17,792)
Adjustments to reconcile net loss to net cash used in operating activities:		
Revaluation of anti-dilution right	(458)	—
Shared based compensation	1,068	727
Depreciation	49	150
(Increase) decrease in prepaid expenses and other current assets	(537)	171
Increase in trade receivables	—	(469)
Increase in trade payable	818	1,935
Increase in long term rent liability	—	299
Increase in other accounts payable	1,562	29
Net cash used in operating activities	(6,371)	(14,950)
Cash flows from investing activities:		
Investment in long-term deposits	(29)	(251)
Purchase of property and equipment	(221)	(1,330)
Net cash used in investing activities	(250)	(1,581)
Cash flows from financing activities:		
Exercise of stock options	22	4
Issuance of convertible preferred stock, net	25,398	7,071
Net cash provided by financing activities	25,420	7,075
Increase in cash and cash equivalents and short-term restricted bank deposits	18,799	(9,456)
Cash and cash equivalents and short-term restricted bank deposits at beginning of the year	7,465	26,264
Cash and cash equivalents and short-term restricted bank deposits at end of the year	$ 26,264	16,608
Supplemental disclosure of non-cash financing activities		
Non-cash Series B Preferred Stock issuance costs	$ 92	—
Non-cash deferred offering costs	$ —	656
Issuance of Series A Preferred Stock in consideration for anti-dilution right	$ 484	—
Supplemental disclosures of cash flow information:		
Cash received for interest	$ 46	378
Cash paid for income taxes	$ (25)	(169)

The accompanying notes are an integral part of the consolidated financial statements.

1. General

a) Ayala Pharmaceuticals, Inc. (the "Company") was incorporated in November 2017. The Company is a clinical stage oncology company dedicated to developing and commercializing small molecule therapeutics for patients suffering from rare and aggressive cancers, primarily in genetically defined patient populations. The Company's current portfolio of product candidates, AL101 and AL102, target the aberrant activation of the Notch pathway with gamma secretase inhibitors.

b) In 2017, the Company entered into an exclusive worldwide license agreement with respect to AL101 and AL102. See Note 5.

c) The Company's lead product candidates, AL101 and AL102, have completed preclinical and Phase 1 studies. A Phase 2 trial (ACCURACY) for AL101 in patients with recurrent/metastatic adenoid cystic carcinoma ("R/M ACC") bearing Notch-activating mutations is ongoing.

d) The Company has a wholly-owned Israeli subsidiary, Ayala-Oncology Israel Ltd. (the "Subsidiary"), which was incorporated in November 2017.

e) The Company has incurred an accumulated deficit of approximately $40.7 million as of December 31, 2019 and incurred recurring operating losses and negative cash flows from operating activities since inception. As of December 31, 2019, the Company's total stockholders' deficit amounted to approximately $38.9 million.

During the year ended December 31, 2019, the Company incurred operating losses of approximately $17.8 million, and its negative cash flow from operating activities was approximately $15.0 million. The Company will be required to identify additional liquidity resources in the near term in order to support its research and development and clinical trials activities.

As of December 31, 2019, the Company's cash and cash equivalents and short-term restricted bank deposits totaled approximately $16.6 million. The Company's current operating plan includes various assumptions concerning the level and timing of cash outflows for operating activities. The Company's ability to successfully carry out its business plan is primarily dependent upon its ability to (1) obtain sufficient additional capital, (2) enter into license agreements to use or commercialize its products and (3) receive other sources of funding. There are no assurances, however, that the Company will be successful in obtaining an adequate level of financing needed for the long-term development and commercialization of its products.

These conditions raise substantial doubt about the Company's ability to continue as a going concern. The audited consolidated financial statements do not include any adjustments relating to the recoverability and classification of assets or liabilities that might be necessary should the Company be unable to continue as a going concern.

f) The Company is subject to risks common to companies in the biopharmaceutical development industry. There can be no assurance that the Company's research and development will be successfully completed, that adequate protection for the Company's intellectual property will be obtained, that any products developed will obtain required regulatory approval or that any approved products will be commercially viable. Even if the Company's development efforts are successful, it is uncertain when, if ever, the Company will generate significant product sales. The Company operates in an environment of rapid technological change and substantial competition from pharmaceutical and biotechnology companies.

2. Significant Accounting Policies

The consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles ("U.S. GAAP"). The significant accounting policies followed in the preparation of the consolidated financial statements, are as follows:

Use of Estimates:

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates, judgments and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. The Company's management believes that the estimates, judgment and assumptions used are reasonable based upon information available at the time they are made. These estimates, judgments and assumptions can affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the dates of the consolidated financial statements. Actual results could differ from those estimates.

Consolidated Financial Statements in U.S. Dollars

A substantial portion of the Company's financing activities, including equity transactions and cash investments, are incurred in U.S. dollars. The Company's management believes that the U.S. dollar is the currency of the primary economic environment in which the Company operates. Thus, the functional and reporting currency of the Company is the U.S. dollar.

A subsidiary's functional currency is the currency of the primary economic environment in which the subsidiary operates; normally, that is the currency of the environment in which a subsidiary primarily generates and expends cash. In making the determination of the appropriate functional currency for a subsidiary, the Company considers cash flow indicators, local market indicators, financing indicators and the subsidiary's relationship with both the parent company and other subsidiaries. For subsidiaries that are primarily a direct and integral component or extension of the parent entity's operations, the U.S. dollar is the functional currency.

The Company has determined the functional currency of its foreign subsidiary is the U.S. Dollar. The foreign operation is considered a direct and integral part or extension of the Company's operations. The day-to-day operations of the foreign subsidiary are dependent on the economic environment of the U.S. Dollar.

Accordingly, monetary accounts maintained in currencies other than the U.S. dollar are remeasured into U.S. dollars in accordance with Statement of the Accounting Standard Codification ("ACS") No. 830 "Foreign Currency Matters" ("ASC No. 830"). All transaction gains and losses of the remeasured monetary balance sheet items are reflected in the statements of operations as financial income or expenses as appropriate.

Principles of Consolidation

The consolidated financial statements include the accounts of the Company and the Subsidiary. Intercompany balances and transactions have been eliminated upon consolidation.

Cash and Cash Equivalents and Restricted Cash

The Company considers all highly liquid certificates of deposits with original maturities of three months or less from the purchase date to be cash equivalents. Cash equivalents consist primarily of amounts invested in money market accounts and are stated at fair value. Restricted cash consists of a money market account that serves as collateral for a credit card agreement and lease agreements at one of the Company's financial institutions.

Property and Equipment, Net

Property and equipment are stated at cost, less accumulated depreciation. Depreciation is calculated on a straight-line basis over the estimated useful lives of the related assets, at the following annual rates:

Computers and software	33%
Lab equipment	15%
Office furniture and equipment	7%

Leasehold improvements are amortized on a straight-line basis over the shorter of the assets' estimated useful life or the remaining term of the lease. Maintenance and repair costs are expensed as incurred.

Impairment of Long-Lived Assets

The Company's long-lived assets are reviewed for impairment in accordance with ASC No. 360, "Property, Plant and Equipment," whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If indicators of impairment exist and the undiscounted future cash flows that the assets are expected to generate are less than the carrying value of the assets, the Company reduces the carrying amount of the assets through an impairment charge, to their estimated fair values. During the years ended December 31, 2018 and 2019, no impairment indicators have been identified.

Accrued Post-Employment Benefit

Under Israeli employment laws, employees of the Company are included under Section 14 of the Severance Compensation Act, 1963 ("Section 14") for a portion of their salaries. According to Section 14, these employees are entitled to monthly payments made by the Company on their behalf with insurance companies.

Payments in accordance with Section 14 release the Company from any future severance payments with respect to those employees. The obligation to make the monthly deposits is expensed as incurred. In addition, the aforementioned deposits are not recorded as an asset in the consolidated balance sheet, and there is no liability recorded as the Company does not have a future obligation to make any additional payments. Severance costs amounted to approximately $0.1 million and $0.2 million for the year ended December 31, 2018 and 2019, respectively.

The Company maintains a 401(k) retirement savings plan for its U.S. employees. Each eligible employee may elect to contribute a portion of the employee's compensation to the plan. As of December 31, 2018 and 2019, the Company has matched 100% of all employee contributions, up to 6% of the employee's base salary.

Fair Value of Financial Instruments:

The Company measures and discloses the fair value of financial assets and liabilities in accordance with ASC Topic 820, "Fair Value Measurement." Fair value is based on the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs.

The accounting standard establishes a fair value hierarchy that prioritizes observable and unobservable inputs used to measure fair value into three broad levels, which are described below:

Level 1: Quoted prices (unadjusted) in active markets that are accessible at the measurement date for assets or liabilities. The fair value hierarchy gives the highest priority to Level 1 inputs.

Level 2: Observable inputs that are based on inputs not quoted on active markets but corroborated by market data.

Level 3: Unobservable inputs are used when little or no market data are available.

Research and Development

Research and development costs are expensed as incurred. Research and development costs include payroll and personnel expenses, consulting costs, external contract research and development expenses, raw materials, drug product manufacturing costs, and allocated overhead including depreciation and amortization, rent, and utilities. Research and development costs that are paid in advance of performance are capitalized as a prepaid expense and amortized over the service period as the services are provided.

Acquired In-Process Research and Development

In an asset acquisition, the initial costs of rights to in-process research and development projects acquired are expensed as R&D in the consolidated statements of operations unless the in-process research and development has an alternative future use. In a business combination, the fair value of in-process research and development is capitalized as an indefinite-lived intangible asset, regardless of whether the in-process research and development asset has an alternative future use.

Clinical Trial Costs

Clinical trial costs are a component of research and development expenses. The Company bases its expenses related to CRO on its estimates of the services received and efforts expanded pursuant to agreements with them. The financial terms of these agreements are subject to negotiation, vary from contract to contract and may result in uneven payment flows. In instances where payments made to CROs exceed the level of services provided and result in a prepayment of the research and development expenses. For reoccurring services fees, the Company estimates the time period over which services will be performed and the level of effort to be expanded in each period. If the actual timing of the performance of services varies from the estimate, the Company adjusts the accrual or amount of prepaid expenses accordingly. Non-refundable advance payments for goods and services that will be used in future research and development activities are expensed when the activity has been performed or when the goods have been received rather than when the payment is made.

Patent Costs

Legal and related patent costs are expensed as incurred as their realization is uncertain. Costs related to patent registration are classified as general and administrative expenses, and costs related to acquired patents are classified as research and development expenses in the accompanying consolidated statements of operations.

Business and Asset Acquisitions

When the Company acquires a business, the purchase price is allocated to the net tangible and identifiable intangible assets acquired. Any residual purchase price is recorded as goodwill. The allocation of the purchase price requires management to make significant estimates in determining the fair values of assets acquired and liabilities assumed, especially with respect to intangible assets. These estimates can include, but are not limited to, the cash flows that an asset is expected to generate in the future, the appropriate weighted-average cost of capital and the cost savings expected to be derived from acquiring an asset. These estimates are inherently uncertain and unpredictable. During the measurement period, which may be up to one year from the acquisition date, adjustments to the fair value of these tangible and intangible assets acquired and liabilities assumed may be recorded, with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the fair value of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded to the Company’s consolidated statement of operations.

The Company accounts for a transaction as an asset acquisition pursuant to the provisions of ASU No. 2017-01, Clarifying the Definition of a Business, when substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets, or otherwise does not meet the definition of a business. Asset acquisition-related costs are capitalized as part of the asset or assets acquired. The Company did not complete any business combinations during the years ended December 31, 2018 and 2019.

Contingent Liabilities

The Company accounts for its contingent liabilities in accordance with ASC No. 450, “Contingencies”. A provision is recorded when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. With respect to legal matters, provisions are reviewed and adjusted to reflect the impact of negotiations, estimated settlements, legal rulings, advice of legal counsel and other information and events pertaining to a particular matter. As of December 31, 2018 and 2019, the Company is not a party to any litigation that could have a material adverse effect on the Company’s business, financial position, results of operations or cash flows.

Income Taxes

The Company accounts for income taxes in accordance with ASC 740, “Income Taxes”. This standard prescribes the use of the liability method whereby deferred tax asset and liability account balances are determined based on differences between financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. The Company provides a valuation allowance, if necessary, to reduce deferred tax assets to their estimated realizable value, if it is more likely than not that some portion of the entire deferred tax asset will not be realized.

The Company accounts for uncertain tax positions in accordance with the provisions of ASC 740-10, “Income Taxes”. Accounting guidance addresses the determination of whether tax benefits claimed or expected to be claimed on a tax return should be recorded in the consolidated financial statements, under which a Company may recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position.

The tax benefits recognized in the consolidated financial statements from such a position should be measured based on the largest benefit that has a greater than fifty percent likelihood of being realized upon ultimate settlement. The Company’s tax positions had no material effect on the Company’s financial results.

Concentrations of Credit Risk

Financial instruments that potentially subject the Company to a concentration of credit risk consist primarily of cash and cash equivalents. Bank deposits are held by accredited financial institutions and these deposits may at times be in excess of insured limits. The Company limits its credit risk associated with cash and cash equivalents by placing them with financial institutions that it believes are of high quality credit rating. The Company has not experienced any losses on its deposits of cash or cash equivalents.

Share-Based Compensation

The Company measures its share-based payment awards made to employees, directors, and non-employee service providers based on estimated fair values. The fair value of each option award is estimated on the grant date using the Black-Scholes option pricing model. The Company recognizes compensation expenses based on the accelerated method over the requisite service period. The Company recognizes forfeitures of awards as they occur.

The Black-Scholes option pricing model requires a number of assumptions, of which the most significant are share price, expected volatility, expected option term (the time from the grant date until the options are exercised or expire), risk-free rate, and expected divided rate. Share price is estimated based on third party valuation (see also Note 9). Expected volatility is estimated based on volatility of similar public companies in the biotechnology sector. The Company has historically not paid dividends and has no foreseeable plans to pay dividends, therefore the Company uses an expected dividend yield of 0%. The risk-free interest rate is based on the yield from U.S. Treasury zero-coupon bonds with an equivalent expected term. The expected option term is calculated for options granted to employees and directors using the "simplified" method. Under this approach, the expected term is presumed to be the midpoint between the weighted average vesting term and the contractual term of the option. The simplified method makes the assumption that the employee will exercise share options evenly over the period when the share options are vested and ending on the date when the share options expire. The expected option term for options granted to non-employees is based on the contractual term. Changes in the determination of each of the inputs can affect the fair value of the share options granted and the results of operations of the Company.

Basic and Diluted Net Loss per Share

Basic loss per share is computed by dividing the net loss by the weighted average number of shares of Common Stock outstanding during the period. Diluted loss per share is computed by dividing the net loss by the weighted average number of shares of Common Stock outstanding together with the number of additional shares of Common Stock that would have been outstanding if all potentially dilutive shares of Common Stock had been issued. Diluted net loss per share is the same as basic net loss per share in periods when the effects of potentially dilutive shares of Common Stock are anti-dilutive.

Unaudited Pro Forma Net Loss per Share

Immediately prior to the completion of the Company's anticipated initial public offering (the "IPO"), all outstanding shares of Series A Preferred Stock and Series B Preferred Stock will convert into shares of Common Stock. The unaudited pro forma net loss per share for the years ended December 31, 2018 and 2019 was computed using the weighted-average number of shares of Common Stock outstanding, including the pro forma effect of the conversion of all outstanding shares of Series A Preferred Stock and Series B Preferred Stock into shares of shares of Common Stock as if such conversion had occurred at the beginning of the period, or their issuance dates if later. Pro forma net loss per share does not include the shares expected to be sold in the IPO.

Comprehensive Loss

The Company has no components of comprehensive loss other than net loss. Thus, comprehensive loss is the same as net loss for the period presented.

Segment Information

Financial information is available for evaluation by the chief operating decision maker, the Company's Chief Executive Officer, in making decisions regarding resource allocation and assessing performance. The Company views its operations and manages its business in one operating segment. Operating segments are defined as components of an enterprise in which separate financial information is evaluated regularly by the chief operating decision maker in deciding how to allocate resources and assessing performance.

Deferred Offering Costs

Deferred offering costs consist primarily of accounting, legal, and other fees related to the Company's proposed IPO. Upon consummation of the IPO, the deferred offering costs will be reclassified to stockholders' (deficit) equity and recorded against the proceeds from the offering. In the event the offering is aborted, deferred offering costs will be expensed. As of December 31, 2018 and 2019, the Company had $0.0 and $0.7 million in deferred offering costs, respectively.

Recent Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board (the "FASB") issued Accounting Standards Update ("ASU") 2014-09— *Revenue from contracts with customers* , to achieve a consistent application of revenue recognition, resulting in a single revenue model to be applied by reporting companies under U.S. GAAP. Under the new model, recognition of revenue occurs when a customer obtains control of the promised goods or services in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. In addition, the standard requires that reporting companies disclose the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. The standard is effective for public entities for fiscal years beginning after December 15, 2017 and is effective for nonpublic entities for fiscal years beginning after December 15, 2018. The standard is required to be applied retrospectively to each prior reporting period presented or retrospectively with the cumulative effect of initially applying it being recognized at the date of initial application. The Company adopted this standard on January 1, 2018, see Revenue Recognition below.

In August 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments (a consensus of the Emerging Issues Task Force), which provides guidance to decrease the diversity in practice in how certain cash receipts and cash payments are presented and classified in the statement of cash flows. For public business entities, it is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. Early adoption is permitted. The Company adopted the guidance as of January 1, 2018 and the adoption did not have a material impact on the Company's consolidated financial statements.

In November 2016, the FASB issued ASU No. 2016-18, Statement of Cash Flows (Topic 230): Restricted Cash, which requires that a statement of cash flows explain the change during the period in the total of cash, cash equivalents and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. For public business entities, it is effective for fiscal years beginning after December 15, 2017, and interim periods therein. Early adoption is permitted. The Company adopted the guidance starting January 1, 2018, and the adoption did not have a material impact on the Company's consolidated financial statements.

In May 2017, the FASB issued ASU No. 2017-09, Compensation—Stock Compensation (Topic 718): Scope of Modification Accounting, which provides clarity in applying the guidance in Topic 718 around modifications of stock-based payment awards. For public business entities, it is effective for fiscal years beginning after December 15, 2017, and interim periods therein. The Company adopted the guidance as of January 1, 2018 and the adoption did not have a material impact on the Company's consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-01, Business Combinations (Topic 805): Clarifying the Definition of a Business, which changes the definition of a business to assist entities with evaluating when a set of transferred assets and activities is a business. If substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or a group of similar identifiable assets, the set of transferred assets and activities is not a business. For public business entities, it is effective for fiscal years beginning after December 15, 2017, and interim periods therein. The Company adopted the guidance as of January 1, 2018 and the adoption did not have a material impact on the Company's consolidated financial statements.

Recently Issued Accounting Pronouncements Not Yet Adopted

As an "emerging growth company," the Jumpstart Our Business Startups Act ("JOBS Act") allows the Company to delay adoption of new or revised accounting pronouncements applicable to public companies until such pronouncements are made applicable to private companies. The Company has elected to use this extended transition period under the JOBS Act. The adoption dates discussed below reflects this election.

In February 2016, the FASB issued ASU 2016-02—*Leases*, requiring the recognition of lease assets and liabilities on the balance sheet. The standard: (a) clarifies the definition of a lease; (b) requires a dual approach to lease classification similar to current lease classifications; and (c) causes lessees to recognize leases on the balance sheet as a lease liability with a corresponding right-of-use asset for leases with a lease-term of more than 12 months. The standard is effective for public entities for fiscal years beginning after December 15, 2018 and for the Company for fiscal years beginning after December 15, 2020. The Company is currently evaluating the impact of adopting this new guidance on its financial statements.

In June 2018, the FASB issued ASU No. 2018-07 Compensation—Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting, which is intended to reduce the cost and complexity and to improve financial reporting for nonemployee share based payment. The standard expands the scope of Topic 718, (which currently only includes share-based payments to employees) to include share-based payments issued to nonemployees for goods or services. Consequently, the accounting for share-based payments to nonemployees and employees will be substantially aligned. The standard is effective for public entities for fiscal years beginning after December 15, 2019 and nonpublic entities for fiscal years beginning after December 15, 2020. Early adoption is permitted but no earlier than a company's adoption date of Topic 606. The Company is currently evaluating the impact of adopting this new guidance on its financial statements.

In June 2016, the FASB issued ASU No. 2016-13 (Topic 326), Financial Instruments—Credit Losses: Measurement of Credit Losses on Financial Instruments, which replaces the existing incurred loss impairment model with an expected credit loss model and requires a financial asset measured at amortized cost to be presented at the net amount expected to be collected. The guidance will be effective for the Company for fiscal years beginning after December 15, 2020. Early adoption is permitted. The Company is currently evaluating the effect that ASU 2016-13 will have on its consolidated financial statements and related disclosures.

Revenue Recognition

The Company recognizes revenue in accordance with ASC Topic 606, Revenue from Contracts with Customers, which applies to all contracts with customers. Under Topic 606, an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration that the entity expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that an entity determines are within the scope of Topic 606, the entity performs the following five steps:

(i) identify the contract(s) with a customer;

(ii) identify the performance obligations in the contract;

(iii) determine the transaction price;

(iv) allocate the transaction price to the performance obligations in the contract; and

(v) recognize revenue when (or as) the entity satisfies a performance obligation.

At contract inception, once the contract is determined to be within the scope of Topic 606, the Company assesses the goods or services promised within the contract and determines those that are performance obligations and assesses whether each promised good or service is distinct.

Customer option to acquire additional goods or services gives rise to a performance obligation in the contract only if the option provides a material right to the customer that it would not receive without entering into that contract.

In a contract with multiple performance obligations, the Company must develop estimates and assumptions that require judgment to determine the underlying stand-alone selling price for each performance obligation, which determines how the transaction price is allocated among the performance obligations.

The Company evaluates each performance obligation to determine if it can be satisfied at a point in time or over time.

Revenue is recognized when control of the promised goods or services is transferred to the customers, in an amount that reflects the consideration the Company expect to be entitled to receive in exchange for those goods or services.

In December 2018, the Company entered into an Evaluation Option to acquire License Agreement (the "Novartis Agreement") with Novartis International Pharmaceutical Limited ("Novartis") for which the company is paid for its research and development costs up to $4.3 million. For additional details regarding the Novartis Agreement, refer to Note 5.

The Company concluded that there is one distinct performance obligation under the Novartis Agreement: Research and development services, obligation which is satisfied over time.

Revenue associated with the research and development services in the amount of $2.3 million was recognized in 2019.

The Company concluded that progress towards completion of the research and development performance obligation related to the Novartis Agreement is best measured in an amount proportional to the expenses incurred from the total estimated expenses. The Company periodically reviews and updates its estimates, when appropriate, which may adjust revenue recognized for the period. The transaction price to be recognized as revenue under the Novartis Agreement consists of the reimbursable research and development costs.

3. Property and Equipment, net

Property and Equipment, net consists of the following:

	December 31, 2018	December 31, 2019
	(in thousands)	
Cost:		
Computers and software	$ 58	$ 72
Lab equipment	170	276
Office furniture and equipment	15	140
Leasehold improvements	47	1,085
	290	1,573
Less: Accumulated depreciation	49	152
Property and equipment, net	$ 241	$ 1,421

Depreciation expenses for the years ended December 31, 2018 and 2019 was approximately $49,000 and $150,000, respectively.

4. Accrued Expenses

Accrued expenses consist of the following:

	December 31, 2018	December 31, 2019
	(in thousands)	
Accrued professional fees	$ 367	$ 770
Accrued research and development expenses	516	105
Tax provision	289	440
Accrued payroll and employee benefits	651	1,065
Total accrued expenses	$ 1,823	$ 2,380

5. Commitments and Contingent Liabilities

Lease

The Subsidiary rents its facilities under an operating lease agreement, which expired in November 2019.

In January 2019, the Company signed a new lease agreement. The term of the lease is for 63 months and includes an option to extend the lease for an additional 60 months. As part of the agreement, the lesser has agreed to sponsor up to approximately $0.5 million of lease improvements. The minimum rental payments under operating leases as of December 31, 2019, are as follows (in thousands):

Year ended December 31,	
2020	$ 341
2021	341
2022	341
2023	341
2024	115
	$ 1,479

The Subsidiary obtained a bank guarantee in the amount of approximately $0.2 million for its new office lease agreement and $24,000 in connection with the former office lease agreement.

Asset Transfer and License Agreement with Bristol-Myers Squibb Company.

In November 2017, the Company entered into a license agreement, or the BMS License Agreement, with Bristol-Myers Squibb Company, or BMS, under which BMS granted the Company a worldwide, non-transferable, exclusive, sublicensable license under certain patent rights and know-how controlled by BMS to research, discover, develop, make, have made, use, sell, offer to sell, export, import and commercialize AL101 and AL102, or the BMS Licensed Compounds, and products containing AL101 or AL102, or the BMS Licensed Products, for all uses including the prevention, treatment or control of any human or animal disease, disorder or condition.

Under the BMS License Agreement, the Company is obligated to use commercially reasonable efforts to develop at least one BMS Licensed Product. The Company has sole responsibility for, and bear the cost of, conducting research and development and preparing all regulatory filings and related submissions with respect to the BMS Licensed Compounds and/or BMS Licensed Products. BMS has assigned and transferred all INDs for the BMS Licensed Compounds to the Company. The Company is also required to use commercially reasonable efforts to obtain regulatory approvals in certain major market countries for at least one BMS Licensed Product, as well as to effect the first commercial sale of and commercialize each BMS Licensed Product after obtaining such regulatory approval. The Company has sole responsibility for, and bear the cost of, commercializing BMS Licensed Products. For a limited period of time, the Company may not, engage directly or indirectly in the clinical development or commercialization of a Notch inhibitor molecule that is not a BMS Licensed Compound.

As consideration of the rights granted by BMS to the Company under the BMS License Agreement, the Company paid BMS a payment of $6 million and issued to BMS 1,125,929 shares of Series A Preferred Stock valued at approximately $7.3 million. The payment and transfer of intellectual property occurred in November 2017 at the time the BMS License Agreement was executed (the "Effective Date"). Pursuant to the terms of the BMS License Agreement, BMS was eligible to receive the Series A Preferred Stock within 60 days of the Effective Date (January 2018). However, the issuance of Series A Preferred Stock did not occur until March 2018. Notwithstanding the foregoing, BMS was eligible to all of the corresponding rights of a Series A Preferred Stock holder as of the Effective Date. As such, all related costs to the BMS license were recorded in 2017.

The Company is required to pay BMS payments upon the achievement of certain development or regulatory milestone events of up to $95 million in the aggregate with respect to the first BMS Licensed Compound to achieve each such event and up to $47 million in the aggregate with respect to each additional BMS Licensed Compound to achieve each such event. The Company is also obligated to pay BMS payments of up to $50 million in the aggregate for each BMS Licensed Product that achieves certain sales-based milestone events and tiered royalties on net sales of each BMS Licensed Product by the Company or its affiliates or sublicensees at rates ranging from a high single-digit to low teen percentage, depending on the total annual worldwide net sales of each such Licensed Product. If the Company sublicenses or assigns any rights to the licensed patents, the BMS Licensed Compounds and/or the BMS Licensed Products, the Company is required to share with BMS a portion of all consideration received from such sublicense or assignment, ranging from a mid-teen to mid-double-digit percentage, depending on the development stage of the most advanced BMS Licensed Compound or BMS Licensed Product that is subject to the applicable sublicense or assignment, but such portion may be reduced based on the milestone or royalty payments that are payable by the Company to BMS under the BMS License Agreement.

Under the terms of the BMS Agreement, the Company was obligated to issue to BMS additional shares of preferred stock as would be required for BMS to maintain its 8% equity ownership in Company, subject to certain exceptions. This right terminated upon the closing of the sale of the Company's Series B Preferred Stock. The Company estimates the fair value of this anti-dilution commitment using the probability weighted expected return method ("PWERM"). At the date of BMS Agreement, the Company recorded liability associated with the anti-dilution right in the amount of approximately $0.5 million, according to its fair value. For the year ended December 31, 2018, the Company recorded an income of approximately $0.5 million for the revaluation of the liability, within financial income, net, in the consolidated statement of operations.

The Company accounted for the acquisition of the rights granted by BMS as an asset acquisition because it did not meet the definition of a business. The Company recorded the total consideration transferred and value of shares issued to BMS as research and development expense in the consolidated statement of operations as incurred since the acquired the rights granted by BMS represented in-process research and development and had no alternative future use.

The Company accounts for contingent consideration payable upon achievement of sales milestones in such asset acquisitions when the underlying contingency is resolved.

The BMS License Agreement remains in effect, on a country-by-country and BMS Licensed Product-by-BMS Licensed Product basis, until the expiration of royalty obligations with respect to a given BMS Licensed Product in the applicable country. Royalties are paid on a country-by-country and BMS Licensed Product-by-BMS Licensed Product basis from the first commercial sale of a particular BMS Licensed Product in a country until the latest of (a) 10 years after the first commercial sale of such BMS Licensed Product in such country, (b) when such BMS Licensed Product is no longer covered by a valid claim in the licensed patent rights in such country, or (c) the expiration of any regulatory or marketing exclusivity for such BMS Licensed Product in such country.

Any inventions, and related patent rights, invented solely by either party pursuant to activities conducted under the BMS License Agreement shall be solely owned by such party, and any inventions, and related patent rights, conceived of jointly by the Company and BMS pursuant to activities conducted under the BMS License Agreement shall be jointly owned by the Company and BMS, with BMS's rights thereto included in the Company's exclusive

license. The Company has the first right—with reasonable consultation with, or participation by, BMS—to prepare, prosecute, maintain and enforce the licensed patents, at the Company's expense.

BMS has the right to terminate the BMS License Agreement in its entirety upon written notice to the Company (a) for insolvency-related events involving the Company, (b) for the Company's material breach of the BMS License Agreement if such breach remains uncured for a defined period of time, (c) for the Company's failure to fulfill its obligations to develop or commercialize the BMS Licensed Compounds and/or BMS Licensed Products not remedied within a defined period of time following written notice by BMS, or (d) if the Company or its affiliates commence any action challenging the validity, scope, enforceability or patentability of any of the licensed patent rights. The Company has the right to terminate the BMS License Agreement (a) for convenience upon prior written notice to BMS, the length of notice dependent on whether a BMS Licensed Project has received regulatory approval, (b) upon immediate written notice to BMS for insolvency-related events involving BMS, (c) for BMS's material breach of the BMS License Agreement if such breach remains uncured for a defined period of time, or (d) on a BMS Licensed Compound-by-BMS Licensed Compound and/or BMS Licensed Product-by-BMS Licensed Product basis upon immediate written notice to BMS if the Company reasonably determine that there are unexpected safety and public health issues relating to the applicable BMS Licensed Compounds and/or BMS Licensed Products.

Upon termination of the BMS License Agreement in its entirety by the Company for convenience or by BMS, the Company grants an exclusive, non-transferable, sublicensable, worldwide license to BMS under certain of its patent rights that are necessary to develop, manufacture or commercialize BMS Licensed Compounds or BMS Licensed Products. In exchange for such license, BMS must pay the Company a low single-digit percentage royalty on net sales of the BMS Licensed Compounds and/or BMS Licensed Products by it or its affiliates, licensees or sublicensees, provided that the termination occurred after a specified developmental milestone for such BMS Licensed Compounds and/ or BMS Licensed Products.

Option and License Agreement with Novartis International Pharmaceutical Ltd.

In December 2018, the Company entered into an evaluation, option and license agreement, or the Novartis Option Agreement, with Novartis International Pharmaceutical Limited, or Novartis, pursuant to which Novartis agreed to conduct certain studies to evaluate AL102 in combination with its B-cell maturation antigen, or BCMA, therapies in multiple myeloma, and the Company agreed to supply AL102 for such studies. All supply and development costs associated with such evaluation studies are fully borne by Novartis.

Under the Novartis Option Agreement, the Company granted Novartis an exclusive option to obtain an exclusive (including as to the Company and its affiliates), sublicensable (subject to certain terms and conditions), worldwide license and sublicense (as applicable) under certain patent rights and know-how controlled by the Company (including applicable patent rights and know-how that are licensed from BMS pursuant to the BMS License Agreement) to research, develop, manufacture (subject to the Company's non-exclusive right to manufacture and supply AL102 or the Novartis Licensed Product for Novartis) and commercialize AL102 or any pharmaceutical product containing AL102 as the sole active ingredient, or the Novartis Licensed Product, for the diagnosis, prophylaxis, treatment, or prevention of multiple myeloma in humans. The Company also granted Novartis the right of first negotiation for the license rights to conduct development or commercialization activities with respect to the use of AL102 for indications other than multiple myeloma. Additionally, from the exercise by Novartis of its option until the termination of the Novartis Option Agreement, the Company may not, either itself or through its affiliates or any other third parties, directly or indirectly research, develop or commercialize certain BCMA-related compounds for the treatment of multiple myeloma.

According to the agreement, Novartis shall pay the Company a low eight figure option exercise fee in order to exercise its option and activate its license, upon which the Company will be eligible to receive development, regulatory and commercial milestone payments of up to $245 million in the aggregate and tiered royalties on net sales of Novartis Licensed Products by Novartis or its affiliates or sublicensees at rates ranging from a mid-single-digit to low double-digit percentage, depending on the total annual worldwide net sales of Novartis Licensed Products. Royalties will be paid on a country-by-country and Novartis Licensed Product-by-Novartis

Licensed Product basis from the first commercial sale of a particular Novartis Licensed Product in a country until the latest of (a) 10 years after the first commercial sale of such Novartis Licensed Product in such country, (b) when such Novartis Licensed Product is no longer covered by a valid claim in the licensed patent rights in such country, or (c) the expiration of any regulatory or marketing exclusivity for such Novartis Licensed Product in such country. Contemporaneously with the Novartis Option Agreement, the Company entered into a stock purchase agreement and associated investment agreements, or the SPA, with Novartis' affiliate, Novartis Institutes for BioMedical Research, Inc., or NIBRI, pursuant to which NIBRI acquired a $10 million equity stake in the Company.

Novartis shall own any inventions, and related patent rights, invented solely by it or jointly with the Company in connection with activities conducted pursuant to the Novartis Option Agreement. The Company will maintain first right to prosecute and maintain any patents licensed to Novartis, both before and after its exercise of its option. The Company maintain the first right to defend and enforce its patents prior to Novartis's exercise of its option, upon which Novartis gains such right with respect to patents included in the license.

The option granted to Novartis will remain in effect until the earlier of (a) 60 days following the last visit of the last subject in the evaluation studies, (b) the termination of the Novartis Option Agreement, or (c) 36 months following the delivery by the Company to Novartis of sufficient amounts of clinical evaluation materials to conduct the anticipated clinical studies. The Novartis Option Agreement remains in effect until such time as no Novartis Licensed Product is being developed or commercialized by Novartis, its affiliates, or sublicensees (including distributors or commercial partners), unless terminated earlier. The Company has the right to terminate the Novartis Option Agreement (a) for Novartis's material breach if such breach remains uncured for 60 days (such cure period shall be extended for an additional period during which Novartis is making good faith efforts to cure such breach) or (b) for Novartis's failure to use commercially reasonable efforts to develop or commercialize AL102 and/or the Novartis Licensed Product not remedied within four months following written notice to Novartis. Novartis has the right to terminate the Novartis Option Agreement (a) in its entirety or on a country-by-country basis for convenience, upon 60 days written notice to us, (b) for Company's material breach if such breach remains uncured for 60 days (such cure period shall be extended for an additional period during which Novartis is making good faith efforts to cure such breach) or (c) upon immediate written notice to the Company for insolvency-related events involving the Company.

6. Fair Value Measurements

As of December 31, 2019, the Company had no financial liabilities measured at fair value.

The changes in the fair value of the Company's Level 3 financial liabilities, which are measured on a recurring basis are as follows (in thousands):

	December 31, 2018
Beginning balance	$ 458
Revaluation of anti-dilution right recorded in financial income, net	(458)
Ending balance	$ —

The fair value of the anti-dilution right is based on significant inputs not observed in the market, and thus represent a Level 3 measurement. Refer to Note 5 for further discussion on the right of issue liability.

Level 3 measurement was done using the probability weighted expected return method ("PWERM") and using comparable discount rates to measure present value of commitment.

7. Convertible Preferred Stock

In December 2017, the Company entered into a Series A Preferred Stock Purchase Agreement, pursuant to which the Company issued 2,553,849 shares of Series A Preferred Stock for a total amount of $16.6 million, at a price equal to $6.50 per share, of which 461,540 shares of Series A Preferred Stock were issued for a total amount of $3.0 million at an additional closing that took place in March 2018.

In consideration for the license from BMS, described in Note 5, the Company issued 1,125,929 shares of Series A Preferred Stock.

In December 2018, the Company entered into a Series B Preferred Share Purchase Agreement, according to which the Company issued 3,097,343 shares of Series B Preferred Stock for a total amount of $24.5 million, at a price equal to $7.91 per share.

In February and May 2019, the Company completed additional closings of the Series B Preferred Stock financing, in which the Company issued 653,331 shares of Series B Preferred Stock for a total amount of $5.2 million, at a price equal to $7.91 per share.

	December 31, 2018			
Convertible Preferred Shares	Shares Authorized	Shares Issued and Outstanding	Carrying Value	Liquidation Preference
Series A	3,700,000	3,679,778	$ 23,823,000	$ 23,918,557
Series B	4,500,000	3,097,343	$ 22,387,000	$ 24,499,983
Total	8,200,000	6,777,121	$ 46,210,000	$ 48,418,540

	December 31, 2019			
Convertible Preferred Shares	Shares Authorized	Shares Issued and Outstanding	Carrying Value	Liquidation Preference
Series A	3,700,000	3,679,778	$ 23,823,000	$ 23,918,557
Series B	4,500,000	3,750,674	$ 29,550,000	$ 29,667,831
Total	8,200,000	7,430,452	$ 53,373,000	$ 58,586,388

The holders of the Company's convertible preferred stock have various rights, preferences, and privileges as follows:

Dividend Rights

The holders of each share of Series A Preferred Stock and Series B Preferred Stock shall be entitled to receive, when and if declared by the board of directors, a dividend in the amount per share declared on the Common Stock, based on the number of shares of Common Stock into which each such preferred share is then convertible, simultaneously with the payment of such dividend on the shares of Common Stock. No dividends have been declared to date.

Automatic Conversion Rights

Each share of Series A Preferred Stock and Series B Preferred Stock is convertible, at the option of the holder at any time, into the number of shares of Common Stock as is determined by dividing the original issue price for such series of preferred stock by the conversion price for such series of preferred share that is in effect at the time of conversion. The initial conversion price for the series of preferred stock is the original issue price for such series of preferred stock. The original issue price was $6.50 and $7.91 ($13 and $15.82 after giving affect to 1-for-2 reverse stock split) per share for the Series A Preferred Stock and Series B Preferred Stock, respectively. The applicable conversion price of each is subject to

adjustment upon stock splits or combinations, recapitalizations, or upon the issuance of any new securities as a price per share lower than the applicable conversion price of the Series A Preferred Stock and Series B Preferred Stock in effect immediately prior to such issuance.

Each share of Series A Preferred Stock and Series B Preferred Stock will automatically be converted into shares of Common Stock, at the then effective conversion price, upon the closing of the sale of shares of Common Stock to the public in a firm commitment underwritten public offering, provided that the price per share of the Common Stock in such offering reflects a pre-money valuation of at least $200 million and that such offering results in the least $50 million of gross proceeds to the Company.

Voting Rights

Each holder of the Series A Preferred Stock and Series B Preferred Stock is entitled to one vote for each share of Common Stock into which such Series A Preferred Stock and Series B Preferred Stock could be converted.

Liquidation Preference

In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company, or deemed liquidation event (a consolidation or merger or a sale, license or other disposition of all or substantially all of the Company's assets), the holders of the Series A Preferred Stock and Series B Preferred Stock will be entitled to receive on a pro rata basis, prior and in preference to the holders of shares of Common Stock and with the Series B Preferred Stock being paid prior to and in preference over the Series A Preferred Stock, an amount equal to the greater of their respective original issuance price ($6.50 per share of Series A Preferred Stock and $7.91 per share of Series B Preferred Stock, as adjusted for any share split, share combination, share dividend, recapitalization or like events) plus any declared but unpaid dividends, or such amount as would have been payable had all shares of Series A Preferred Stock or Series B Preferred Stock, respectively, been converted into Common Stock, in each case, less the amount of any distributions paid in preference on such preferred share in any prior liquidation or other similar event.

After payment in full of the convertible preferred shares amount, the remaining distributable proceeds, if any, shall be distributed pro-rata among all the holders of Common Stock (on a non-converted basis), provided however, that if a conversion of a convertible preferred share into Common Stock immediately prior to the applicable distribution of the distributable proceeds to the holder of such convertible preferred share would result in the holder of such convertible preferred share receiving in respect of such converted preferred share a greater payment than the convertible preferred shares amount applicable to such convertible preferred share, then the holder of such convertible preferred share shall be entitled to participate in such distribution together with the holders of Common Stock, on a pro-rata, as converted basis, without the need to actually convert such convertible preferred share.

In the event of a liquidation event, all the funds and assets of the Company available for distribution among all the shareholders shall be distributed in the following order of preference:

(a) the holders of the Series B Preferred Stock shall be entitled to receive an amount per share equal to $7.91 per each share of Series B Preferred Stock (less the amount of distributions actually received in any prior liquidation event, plus all declared but unpaid dividends);

(b) the holders of the Series A Preferred Stock shall be entitled to receive an amount per share equal to $6.50 per each share of Series A Preferred Stock (less the amount of distributions actually received in any prior liquidation event, plus all declared but unpaid dividends); and

(c) the remaining assets of the Company available for distribution to shareholders shall be distributed among the common stockholders.

Although the convertible preferred shares are not redeemable, in the event of certain "deemed liquidation events" that are not solely within the Company's control (including merger, acquisition, or sale of all or substantially all of the Company's assets), the holders of the convertible preferred shares would be entitled to preference amounts paid before distribution to other shareholders (as explained in the previous paragraph) and hence effectively redeeming the preference amount.

Redemption

The Company's Certificate of Incorporation does not provide redemption rights to the holders of the Series A Preferred Stock and Series B Preferred Stock.

Classification of Series A Preferred Stock and Series B Preferred Stock—The deemed liquidation preference provisions of the convertible preferred shares are considered contingent redemption provisions that are not solely within the Company's control. Accordingly, the Series A Preferred Stock and Series B Preferred Stock have been presented outside of permanent equity in the mezzanine section of the consolidated balance sheet.

As of December 31, 2018 and 2019, the Company did not adjust the carrying values of the convertible preferred shares to the deemed liquidation values of such shares since a liquidation event was not probable of occurring.

8. Common Stock

On November 14, 2017, the Company approved its subscription agreements with its founding stockholders, according to which the Company issued 4,916,834 shares of Common Stock for no consideration.

On December 10, 2017, the stockholders of the Company increased the authorized capital stock of the company by 24,995,000 shares of Common Stock such that after such increase the authorized capital stock of the company was 25,000,000, divided into (i) 20,000,000 shares of Common Stock (ii) 5,000,000 shares of Series A Preferred Stock.

Concurrently with the increase, the stockholders of the Company approved a stock split of the Company's Common Stock and Preferred Stock such that each then outstanding share was divided into 10,000 shares so that following such stock split each stockholder holds a total of 10,000 shares for each share held by such shareholder immediately prior to the stock split. All references to common stock, share and per share amounts have been retroactively restated to reflect the 1:10,000 stock split as if it had taken place as of the beginning of the earliest period presented.

The Common Stock confer upon the holders the right vote in annual and special meetings of the Company, and to participate in the distribution of the surplus assets of the Company upon liquidation of the Company, after the distribution of the preferred stock liquidation preference. No dividends have been declared as of December 31, 2018 and 2019.

In December 2018, the stockholders of the Company increased the authorized capital stock of the company by 3,200,000 shares such that after such increase, the authorized capital stock of the company was 28,200,000 shares, divided into (i) 20,000,000 shares of Common Stock (ii) 3,700,000 shares of Series A Preferred Stock and (iii) 4,500,000 shares of Series B Preferred Stock.

Total shares of Common Stock reserved for issuance are summarized as follows:

	December 31, 2018	December 31, 2019
Series A Preferred Stock, as converted	1,839,884	1,839,884
Series B Preferred Stock, as converted	1,548,704	1,875,338
Options outstanding	437,415	608,218
Shares available for future option grants	302,870	71,720
Total shares of Common Stock reserved for issuance	4,128,873	4,395,160

a. Composition of capital stock:

	December 31, 2018		December 31, 2019	
	Authorized	Issued and outstanding	Authorized	Issued and outstanding
Shares of USD 0.01 par value:				
Common Stock	20,000,000	4,959,667*	20,000,000	4,998,874*

* Does not include 44,707 and 65,847 shares of restricted Common Stock issued but not outstanding in 2018 and 2019, respectively.

9. Share Based Plans:

Company's stock options:

In 2017, the Company's board of directors adopted the 2017 Stock Incentive Plan ("the Plan"). According to the Plan share awards or options to purchase shares may be granted to employees, directors, consultants and other service providers of the Company or any affiliate of the Company.

As of December 31, 2019, a total of 827,825 shares of Common Stock were authorized for issuance in accordance with the provisions of the 2017 Plan, of which 71,720 shares were then available for future awards at December 31, 2019 (whether as share awards or as options to purchase shares of Common Stock of the Company). Each option granted under the Plan expires no later than 10 years from the date of grant. The options vest primarily over four to five years of employment.

The following table set forth the parameters used in computation of the options compensations to employees:

	Year ended December 31,	
	2018	2019
Expected volatility	80%	80%
Expected dividends	0%	0%
Expected term (in years)	6.00-6.34	6.06-6.34
Risk free rate	2.43%-3.18%	1.41%-2.51%
Share price	5.22-5.48	5.48-6.50

Exercise price:

In determining the exercise prices for stock options granted, the board of directors considered the fair value of common stock as of each grant date. The fair value of common stock underlying the stock options was determined by the board of directors at each award grant date based upon a variety of factors, including the results obtained from independent third-party valuations, the Company's financial position and historical financial performance, the status of technological developments within the Company's products, the composition

and ability of the current clinical and management team, an evaluation or benchmark of the Company's competition, the current business climate in the marketplace, the illiquid nature of common stock, arm's length sales of the Company's capital stock, the effect of the rights and preferences of the convertible preferred stockholders, and the prospects of a liquidity event, among others.

Expected volatility:

As the Company is privately owned, there is not sufficient historical volatility for the expected term of the stock options. Therefore, the Company uses an average historical share price volatility based on an analysis of reported data for a peer group of comparable publicly traded companies which were selected based upon industry similarities.

Expected term (years):

Expected term represents the period that the Company's option grants are expected to be outstanding. There is not sufficient historical share exercise data to calculate the expected term of the stock options. Therefore, the Company elected to utilize the simplified method to value option grants. Under this approach, the weighted-average expected life is presumed to be the average of the shortest vesting term and the contractual term of the option.

Risk-free interest rate:

The Company determined the risk-free interest rate by using a weighted-average equivalent to the expected term based on the U.S. Treasury yield curve in effect as of the date of grant.

Expected dividend yield:

The Company does not anticipate paying any dividends in the foreseeable future.

The Company recorded share-based compensation for the period indicated as follows (in thousands):

	Year ended December 31, 2018	Year ended December 31, 2019
Research and development	$ 415	$ 365
General and administrative	653	362
Total share-based compensation	$ 1,068	$ 727

The Company recognizes compensation expenses for the value of its awards granted based on the accelerated method over the requisite service period of each of the awards.

A summary of the Company's share options activity granted to employees under the Plan is as follows:

	Year ended December 31, 2019			
	Number of options	Weighted average exercise price	Weighted average remaining contractual term (in years)	Aggregate intrinsic value
Outstanding at beginning of year	437,415	$ 5.10	—	$ —
Granted	234,210	5.19		
Exercised	(750)	5.10		285
Forfeited	(62,657)	5.10		
Outstanding, December 31, 2019	608,218	$ 5.10	8.45	$ 842,447
Exercisable options, December 31, 2019	164,988	$ 5.10	6.98	$ 234,284

The weighted-average grant date per-share fair value of stock options granted during 2018 and 2019 was $3.16 and $4.16, respectively. The aggregate intrinsic value of stock options exercised during the year ended December 31, 2018 and 2019 was $1,575 and $285, respectively. As of December 31, 2019, there was approximately $1.4 million of total unrecognized compensation cost related to non-vested share-based compensation arrangements granted under the Plan. That cost is expected to be recognized over a weighted-average period of 2.11 years.

Company's restricted shares:

In February 2018 the Company has granted 83,165 restricted shares to an employee and an officer of the Company. In the case of the officer, the restricted shares shall vest over two years starting November 15, 2017, and in the case of the other employee, the restricted shares shall vest over four years starting November 15, 2017.

In December 2019 the Company has granted 59,597 restricted shares to two officers of the Company. The restricted shares shall vest over four years starting December 24, 2019.

The following table summarizes information relating to restricted shares, as well as changes to such awards during the fiscal years ended December 31, 2018 and 2019:

	Year ended December 31, 2018	Year ended December 31, 2019
Outstanding at beginning of year	—	44,707
Granted	83,165	59,597
Vested	(38,458)	(38,457)
Outstanding at end of year	44,707	65,847

The weighted average fair values at grant date of restricted shares granted for the years ended December 31, 2018 and 2019 was $5.22 and $6.74, respectively.

The total fair value of shares vested during each of 2018 and 2019 was approximately $0.2 million. As of December 31, 2019, the Company had approximately $0.3 million of unrecognized compensation expense related to non-vested RSUs, expected to be recognized over a weighted average period of 1.24 years.

Restricted shares are subject to a repurchase right by the Company on certain occasions. Under the repurchase right, the Company may reacquire a pro-rata portion of the granted shares, for no consideration, if certain conditions occur including the employees' end of service with the Company.

10. Taxes on Income

The Company records income tax expense related to profits realized in the United States and realized by its subsidiary in Israel.

United States:

On December 22, 2017, the United States enacted the Tax Cuts and Jobs Act (the "U.S. Tax Reform"); a comprehensive tax legislation that includes significant changes to the taxation of business entities. These changes, most of which are effective for tax years beginning after December 31, 2017, include several key tax provisions that might impact the Company, among others: (i) a permanent reduction to the statutory federal corporate income tax rate from 35% (top rate) to 21% (flat rate) effective for tax years beginning after December 31, 2017 (ii) a new tax deduction in the amount of 37.5% of "foreign derived intangible income" that effectively reduces the federal corporate tax on certain qualified foreign derived sales/licenses/leases and service income in excess of a base amount to 13.125% (as compared to the regular corporate income tax rate of 21%);

(iii) stricter limitation on the tax deductibility of business interest expense; (iv) a shift of the U.S. taxation of multinational corporations from a tax on worldwide income to a territorial system (along with certain rules designed to prevent erosion of the U.S. income tax base) (v) a one-time deemed repatriation tax on accumulated offshore earnings held in cash and illiquid assets, with the latter taxed at a lower rate and (vi) an expansion of the U.S. controlled foreign corporation ("CFC") anti deferral starting with the CFC's first tax year beginning in 2018 intended to tax in the U.S. "global intangible low-taxed income" ("GILTI").

The Company recorded loss from continuing operations, before taxes on income for the period indicated as follows (in thousands):

	Year ended December 31, 2018	Year ended December 31, 2019
United States	$ (8,035)	$ (17,104)
Israel	(552)	(382)
Net loss before tax	$ (8,587)	$ (17,486)

Income tax expense is summarized as follows (in thousands):

	Year ended December 31, 2018	Year ended December 31, 2019
Current:		
Federal	$ —	$ —
State	—	10
Foreign	286	296
	$ 286	$ 306
Deferred:		
Federal	$ —	$ —
State	—	—
Foreign	—	—
	$ —	$ —
Income tax expense	$ 286	$ 306

The effective income tax rate differed from the amount computed by applying the federal statutory rate to our loss before income taxes as follows:

	Year ended December, 31 2018	Year ended December, 31 2019
U.S. federal tax provision at statutory rate	21.00%	21.00%
State and local tax, net of federal benefit	2.51	2.81
Foreign rate differences	(0.07)	(0.04)
Non-deductible stock compensation	(2.61)	(0.87)
Section 951A GILTI	(1.48)	(1.02)
Effect of other permanent differences	(0.03)	0.00
Uncertain tax positions	(2.39)	(1.11)
Change in valuation allowance	(20.27)	(22.44)
Federal Tax Reform Rate Change	0.00	0.00
Other adjustments	0.00	(0.08)
Effective tax rate	(3.34)%	(1.75)%

Deferred Income Taxes

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's deferred tax assets are as follows (in thousands):

	As of December 31, 2018	As of December 31, 2019
Deferred tax assets:		
Federal net operating loss carryforwards	$ 1,828	$ 5,730
Intangible assets	2,971	2,971
Accrued expenses	90	120
Other	1	(7)
Total deferred tax assets	4,890	8,814
Valuation allowance	(4,890)	(8,814)
Net deferred tax assets	$ —	$ —

As of December 31, 2019, the Company has provided a valuation allowance of approximately $8.8 million in respect of the Company's deferred tax assets resulting from tax loss carryforwards and other temporary differences. Realization of deferred tax assets is dependent upon future earnings, if any, the time and amount of which are uncertain. As the Company is still in its development stage and has not yet generated revenues, it is more likely than not that sufficient taxable income will not be available for the tax losses to be utilized in the future. Therefore, a valuation allowance was recorded to reduce the deferred tax assets to their recoverable amounts.

Available Carryforward Tax Losses

As of December 31, 2019, the Company has an accumulated federal tax loss carryforward of approximately $23.9 million, of which approximately $0.3 million expires in 2037 and approximately $23.6 million can be carried forward indefinitely. The Company also has state loss carryforwards of approximately $10.9 million, of which approximately $2.5 million will expire in at various dates through 2039, and approximately $8.4 million can be carried forward indefinitely.

Utilization of the U.S. net operating losses above may be subject to substantial annual limitations due to the "change in ownership" provisions of Internal Revenue Code Section 382 and similar state provisions. For net operating losses that are subject to expiration, the annual limitation may result in the expiration of such net operating losses before utilization.

Uncertain Tax Positions

The Company has reviewed the tax positions taken, or to be taken, in our tax returns for all tax years currently open to examination by a taxing authority. As of December 31, 2018 and 2019, the Company has recorded an uncertain tax position liability exclusive of interest and penalties of approximately $0.2 and $0.4 million, respectively. As of December 31, 2019, the Company has not accrued penalties for uncertain tax positions. A reconciliation of the Company's unrecognized tax benefits is below:

	2018 (in thousands)	2019 (in thousands)
Uncertain tax position at the beginning of year	$ —	$ 205
Additions for uncertain tax position of prior years (foreign exchange and interest)	—	25
Additions for tax positions of current year	205	194
Uncertain tax position at the end of the year	$ 205	$ 424

The Company remains subject to examination until the statute of limitations expires for each respective tax jurisdiction. The statute of limitations is currently open for 2017 and 2018 for all tax jurisdictions.

Israel:

In December 2016, the Israeli Parliament approved the Economic Efficiency Law (Legislative Amendments for Applying the Economic Policy for the 2017 and 2018 Budget Years) which reduces the corporate income tax rate from 25% to 24% effective from January 1, 2017, and to 23% effective from January 1, 2018.

The Israeli corporate income tax rate was 23% in 2018 and 2019. Income not eligible for Preferred Enterprise benefits is taxed at the regular corporate tax rates as described above.

11. Net Loss Per Share Attributable to Common Stockholders

The following table sets forth the computation of the unaudited pro forma net loss per share for the period presented (in thousands, except for share data):

	Year ended December 31, 2018	Year ended December 31, 2019
Numerator:		
Net loss	$ 8,873	$ 17,792
Denominator:		
Weighted-average number of shares used to compute net loss per share, basic and diluted	4,935,897	4,979,606
Pro forma adjustment to reflect assumed conversion of convertible preferred shares		3,600,743
Weighted-average number of shares used to compute pro forma loss per share, basic and diluted (unaudited)		8,580,349

The following potentially dilutive common stock equivalents have been excluded from the calculation of diluted net loss per share for the period presented due to their anti-dilutive effect: 3,679,778 shares of Series A Preferred Stock, 3,750,674 shares of Series B Preferred Stock and 608,218 options outstanding to purchase common stock as of December 31, 2019.

12. Related Party Transactions

The Company incurred $28,000 in professional services expense related to certain stockholder for the year ended December 31, 2018.

The Company recorded share-based compensation in the amount of approximately $69,000 and $65,000 for professional services expense related to certain members of the board of directors for the periods ended December 31, 2018 and 2019, respectively.

There are no balances with related parties as of December 31, 2018 and 2019.

13. Subsequent Events

During 2020, the board of directors granted 52,750 stock options to certain non-executive board members of the Company and its employees.

On May 3, 2020, the board of directors approved a 1-for-2 reverse stock split. As a result, all common stock and options for common stock, exercise price and net loss per share amounts were adjusted retroactively for all periods presented in these financial statements. Additionally, the conversion price of each share of the Company's convertible preferred stock was adjusted to reflect this reverse stock split. In addition, pursuant to the same amendment, the number of authorized shares of common stock was increased to 200,000,000 shares.

3,333,334 Shares

Ayala Pharmaceuticals, Inc.

Common Stock

PRELIMINARY PROSPECTUS

, 2020

Citigroup

Jefferies

Oppenheimer & Co.

Raymond James

, 2020

Until , 2020 (25 days after the date of this prospectus), all dealers that buy, sell or trade shares of our common stock, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

Part II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

The following table indicates the expenses to be incurred in connection with the offering described in this registration statement, other than estimated underwriting discounts and commissions, all of which will be paid by us. All amounts are estimated except the Securities and Exchange Commission registration fee, the Financial Industry Regulatory Authority, Inc., or FINRA, filing fee and the Nasdaq initial listing fee.

	Amount
Securities and Exchange Commission registration fee	$ 7,691
FINRA filing fee	9,700
Nasdaq initial listing fee	150,000
Accountants' fees and expenses	350,000
Legal fees and expenses	1,300,000
Blue Sky fees and expenses	10,000
Transfer Agent's fees and expenses	5,000
Printing and engraving expenses	220,000
Miscellaneous	47,609
Total expenses	$ 2,100,000

Item 14. Indemnification of Directors and Officers.

Section 102 of the General Corporation Law of the State of Delaware permits a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit. Our restated certificate of incorporation provides that no director of the Registrant shall be personally liable to it or its stockholders for monetary damages for any breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability, except to the extent that the General Corporation Law of the State of Delaware prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty.

Section 145 of the General Corporation Law of the State of Delaware provides that a corporation has the power to indemnify a director, officer, employee, or agent of the corporation, or a person serving at the request of the corporation for another corporation, partnership, joint venture, trust or other enterprise in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he was or is a party or is threatened to be made a party to any threatened, ending or completed action, suit or proceeding by reason of such position, if such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Our restated certificate of incorporation provides that we will indemnify each person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding (other than an

action by or in the right of us) by reason of the fact that he or she is or was, or has agreed to become, a director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (all such persons being referred to as an "Indemnitee"), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding and any appeal therefrom, if such Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, and, with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful. Our restated certificate of incorporation provides that we will indemnify any Indemnitee who was or is a party to an action or suit by or in the right of us to procure a judgment in our favour by reason of the fact that the Indemnitee is or was, or has agreed to become, a director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise, or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees) and, to the extent permitted by law, amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding, and any appeal therefrom, if the Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, except that no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to us, unless a court determines that, despite such adjudication but in view of all of the circumstances, he or she is entitled to indemnification of such expenses. Notwithstanding the foregoing, to the extent that any Indemnitee has been successful, on the merits or otherwise, he or she will be indemnified by us against all expenses (including attorneys' fees) actually and reasonably incurred in connection therewith. Expenses must be advanced to an Indemnitee under certain circumstances.

We have entered into indemnification agreements with each of our directors and officers. These indemnification agreements may require us, among other things, to indemnify our directors and officers for some expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by a director or officer in any action or proceeding arising out of his or her service as one of our directors or officers, or any of our subsidiaries or any other company or enterprise to which the person provides services at our request.

We maintain a general liability insurance policy that covers certain liabilities of directors and officers of our corporation arising out of claims based on acts or omissions in their capacities as directors or officers.

In any underwriting agreement we enter into in connection with the sale of common stock being registered hereby, the underwriters will agree to indemnify, under certain conditions, us, our directors, our officers and persons who control us within the meaning of the Securities Act of 1933, as amended, or the Securities Act, against certain liabilities.

Item 15. Recent Sales of Unregistered Securities.

Set forth below is information regarding shares of capital stock issued by us within the past three years. Also included is the consideration received by us for such shares and information relating to the section of the Securities Act, or rule of the Securities and Exchange Commission, under which exemption from registration was claimed.

(a) Issuance of Capital Stock.

Since January 1, 2017, the registrant issued an aggregate of (i) 3,679,778 shares of Series A Preferred Stock for aggregate consideration of approximately $16.6 million and (ii) 3,750,674 shares of Series B Preferred Stock for an aggregate consideration of approximately $29.7 million to accredited investors, each pursuant to Rule 506 as a transaction not involving a public offering.

(b) Equity Grants.

Since January 1, 2017, the registrant granted stock options to purchase an aggregate of 1,462,001 shares of its common stock, at a weighted exercise price per share of $2.70 per share, to employees, non-employees, and directors in connection with services provided to the registrant by such parties.

In May 2020, the registrant granted stock options to purchase 47,299 shares of common stock and issued 58,561 additional shares of common stock pursuant to restricted stock grants to certain of the registrant's executive officers and employees, each at an exercise price per share equal to the initial public offering price in this offering in connection with services provided to the registrant.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits.

Exhibit Number	Description of Exhibit
1.1*	Form of Underwriting Agreement
3.1	Certificate of Incorporation of the Registrant, as amended (currently in effect)
3.2*	Bylaws of the Registrant (currently in effect)
3.3	Form of Restated Certificate of Incorporation of the Registrant (to be effective upon the closing of this offering)
3.4	Form of Restated Bylaws of the Registrant (to be effective upon the closing of this offering)
4.1	Amended and Restated Investors' Rights Agreement, as amended
4.2	Specimen Stock Certificate evidencing the shares of common stock
5.1	Opinion of Latham & Watkins LLP
10.1#	Amended 2017 Stock Incentive Plan and form of agreements thereunder
10.2#	Non-Employee Director Compensation Program
10.3#	Form of Indemnification Agreement for Directors and Officers
10.4*	Lease Agreement, dated January 24, 2019, between Ayala-Oncology Israel Ltd. and Ogen Real Estate Maniv Ltd.
10.5*	Employment Agreement, dated December 26, 2017, between Ayala-Oncology Israel Ltd. and Roni Mamluk, Ph.D., as amended
10.6*	Employment Agreement, dated March 15, 2019, between Ayala-Oncology Israel Ltd. and Yossi Maimon, CPA, M.B.A., as amended
10.7	Employment Agreement, dated July 24, 2019, between the Registrant and Gary Gordon M.D., Ph.D., as amended
10.8†	License Agreement, dated November 29, 2017, between the Registrant and Bristol-Myers Squibb Company, as amended
10.9†*	Evaluation, Option and License Agreement, dated December 19, 2018, between the Registrant and Novartis International Pharmaceutical Limited
21.1*	Subsidiaries of the Registrant
23.1	Consent of Ernst & Young LLP
23.2	Consent of Latham & Watkins LLP (included in Exhibit 5.1)
24.1*	Power of Attorney (included on signature page)

* Previously filed.
\# Indicates management contract or compensatory plan.
† Portions of this exhibit (indicated by asterisks) have been redacted in compliance with Regulation S-K Item 601(b)(10)(iv).

(b) Financial Statement Schedules. Schedules not listed above have been omitted because the information required to be set forth therein is not applicable or is shown in the financial statements or notes thereto.

Item 17. Undertakings.

The undersigned registrant hereby undertakes to provide to the underwriter, at the closing specified in the underwriting agreement, certificates in such denominations and registered in such names as required by the underwriter to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Rehovot, Israel, on this 4th day of May, 2020.

AYALA PHARMACEUTICALS, INC.

By: /s/ Roni Mamluk
Roni Mamluk, Ph.D.
Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities held on the dates indicated.

Signature	Title	Date
/s/ Roni Mamluk Roni Mamluk, Ph.D.	Chief Executive Officer and Director (principal executive officer)	May 4, 2020
/s/ Yossi Maimon Yossi Maimon, CPA, M.B.A.	Chief Financial Officer (principal financial officer and principal accounting officer)	May 4, 2020
* David Sidransky, M.D.	Chairman of the Board of Directors	May 4, 2020
* Robert Spiegel, M.D., FACP	Director	May 4, 2020
* Murray A. Goldberg	Director	May 4, 2020
* Todd Sone	Director	May 4, 2020
* Guy Harmelin, M.D.	Director	May 4, 2020

*By: /s/ Yossi Maimon
Yossi Maimon
Attorney-in-Fact

Exhibit 3.1

State of Delaware
Secretary of State
Division of Corporations
Delivered 09:34 AM 12/19/2018
FILED 09:34 AM 12/19/2018
SR 20188243232 - File Number 6615492

AMENDED AND RESTATED CERTIFICATE OF INCORPORATION OF AYALA PHARMACEUTICALS, INC.

(Pursuant to Sections 242 and 245 of the
General Corporation Law of the State of Delaware)

Ayala Pharmaceuticals, Inc., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the "General Corporation Law"),

DOES HEREBY CERTIFY:

1. That the name of this corporation is Ayala Pharmaceuticals, Inc., and that this corporation was originally incorporated pursuant to the General Corporation Law on November 14, 2017.

2. That the Board of Directors of the Corporation (the "Board of Directors") duly adopted resolutions proposing to amend and restate the Amended and Restated Certificate of Incorporation of this corporation, declaring said amendment and restatement to be advisable and in the best interests of this corporation and its stockholders, and authorizing the appropriate officers of this corporation to solicit the consent of the stockholders therefor, which resolution setting forth the proposed amendment and restatement is as follows:

RESOLVED, that the Amended and Restated Certificate of Incorporation of this corporation be amended and restated in its entirety to read as follows:

FIRST: The name of this corporation is Ayala Pharmaceuticals, Inc. (the "Corporation")

SECOND: The address of the registered office of the Corporation in the State of Delaware is 1313 N. Market Street, Suite 5100, Wilmington, New Castle County, DE 19801. The name of its registered agent at such address is PHS Corporate Services, Inc.

THIRD: The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law.

FOURTH: The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) 20,000,000 shares of Common Stock, $0.01 par value per share ("Common Stock"); (ii) 3,700,000 shares of Series A Preferred Stock, $0.01 par value per share ("Series A Preferred Stock"); and (iii) 4,500,000 shares of Series B Preferred Stock, $0.01 par value per share ("Series B Preferred Stock"). The Series B Preferred Stock and the Series A Preferred Stock shall collectively be referred herein as "Preferred Stock".

The following is a statement of the designations and the powers, privileges and rights, and the qualifications, limitations or restrictions thereof in respect of each class of capital stock of the Corporation.

A. COMMON STOCK

1. General. The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights, powers and preferences of the holders of the Preferred Stock set forth herein.

2. Voting. The holders of the Common Stock are entitled to one vote for each share of Common Stock held at all meetings of stockholders (and written actions in lieu of meetings); provided, however, that, except as otherwise required by law, holders of Common Stock, as such, shall not be entitled to vote on any amendment to the Corporation's Certificate of Incorporation (the "Certificate of Incorporation") that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together with the holders of one or more other such series, to vote thereon pursuant to the Certificate of Incorporation or pursuant to the General Corporation Law. The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of shares of capital stock of the Corporation representing a majority of the votes represented by all outstanding shares of capital stock of the Corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law.

B. PREFERRED STOCK

Preferred Stock may be issued from time to time in one or more series, each of such series to consist of such number of shares and to have such terms, rights, powers and preferences, and the qualifications and limitations with respect thereto, as stated or expressed herein.

Unless otherwise indicated, references to "Sections" or "Subsections" in this Part B of this Article Fourth refer to sections and subsections of Part B of this Article Fourth.

1. Dividends.

The Corporation shall not declare, pay or set aside any dividends on shares of any other class or series of capital stock of the Corporation (other than dividends on shares of Common Stock payable in shares of Common Stock) unless (in addition to the obtaining of any consents required elsewhere in the Certificate of Incorporation) the holders of the shares of Preferred Stock then outstanding shall first receive, or simultaneously receive, a dividend on each such outstanding share of Preferred Stock in an amount at least equal to (i) in the case of a dividend on Common Stock or any class or series that is convertible into Common Stock, that dividend per such share of Preferred Stock as would equal the product of (A) the dividend payable on each share of such class or series determined, if applicable, as if all shares of such class or series had been converted

into Common Stock and (B) the number of shares of Common Stock issuable upon conversion of such share of Preferred Stock, in each case calculated on the record date for determination of holders entitled to receive such dividend or (ii) in the case of a dividend on any class or series that is not convertible into Common Stock, at a rate per such share of Preferred Stock determined by (A) dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to such class or series) and (B) multiplying such fraction by an amount equal to the applicable Original Issue Price (as defined below) of such share of Preferred Stock; provided that, if the Corporation declares, pays or sets aside, on the same date, a dividend on shares of more than one class or series of capital stock of the Corporation, then the dividend payable to the holders of Series A Preferred Stock pursuant to this Section 1 shall be calculated based upon the dividend on the class or series of capital stock that would result in the highest Series A Preferred Stock dividend, and the dividend payable to the holders of Series B Preferred Stock pursuant to this Section 1 shall be calculated based upon the dividend on the class or series of capital stock that would result in the highest Series B Preferred Stock dividend. The "Original Issue Price" shall initially (as of the Series B Original Issue Date) mean (a) in the case of the Series A Preferred Stock—$6.50 per share (the "Series A Original Issue Price"), and (b) in the case of the Series B Preferred Stock, $7.91 per share (the "Series B Original Issue Price"); in each case, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A Preferred Stock or the Series B Preferred Stock, as applicable.

2. Liquidation, Dissolution or Winding Up; Certain Mergers, Consolidations and Asset Sales.

2.1 Preferential Payments to Holders of Series B Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event (as defined below), the holders of shares of Series B Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of Series A Preferred Stock and Common Stock by reason of their ownership thereof, an amount per share equal to the greater of (i) the Series B Original Issue Price, *plus* any dividends declared but unpaid thereon, *minus* any amounts actually received on account of such share of Series B Preferred Stock prior to such time in accordance with the provisions of Sections 1 and 2 hereof, or (ii) such amount per share as would have been payable had all shares of Series B Preferred Stock been converted into Common Stock pursuant to Section 4 immediately prior to such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, *minus* any amounts actually received on account of such share of Series B Preferred Stock prior to such time in accordance with the provisions of Sections 1 and 2 hereof. If upon any such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series B Preferred Stock the full amount to which they shall be entitled under this Subsection 2.1, the holders of shares of Series B Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full. The amount which a holder of a share of Series B Preferred Stock is entitled to receive under Subsection 2.1 is hereinafter referred to as the "Series B Liquidation Amount.

2.2 Preferential Payments to Holders of Series A Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event (as defined below), after the payment of al] preferential amounts required to be paid to the holders of shares of Series B Preferred Stock, the holders of shares of Series A Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of Common Stock by reason of their ownership thereof, an amount per share equal to the greater of (i) the Series A Original Issue Price, *plus* any dividends declared but unpaid thereon, *minus* any amounts actually received on account of such share of Series A Preferred Stock prior to such time in accordance with the provisions of Sections 1 and 2 hereof, or (ii) such amount per share as would have been payable had all shares of Series A Preferred Stock been converted into Common Stock pursuant to Section 4 immediately prior to such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, *minus* any amounts actually received on account of such share of Series A Preferred Stock prior to such time in accordance with the provisions of Sections 1 and 2 hereof. If upon any such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series A Preferred Stock the full amount to which they shall be entitled under this Subsection 2.2, the holders of shares of Series A Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full. The amount which a holder of a share of Series A Preferred Stock is entitled to receive under Subsection 2.2 is hereinafter referred to as the "Series A Liquidation Amount."

2.3 Distribution of Remaining Assets. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, after the payment of all preferential amounts required to be paid to the holders of shares of shares of Preferred Stock, the remaining assets of the Corporation available for distribution to its stockholders shall be distributed among the holders of the shares of Common Stock only, pro rata based on the number of shares held by each such holder.

2.4 Deemed Liquidation Events.

2.4.1 Definition. Each of the following events shall be considered a "Deemed Liquidation Event" unless the holders of at least a majority in interest of the then outstanding shares of Preferred Stock, voting together as a separate, exclusive class (the "Required Vote"), waive treatment of such an event as a Deemed Liquidation, which waiver shall be made by written notice sent to the Corporation at least ten (10) days prior to the effective date of any such event:

(a) a merger or consolidation in which

(i) the Corporation is a constituent party or

(ii) a subsidiary of the Corporation is a constituent party and the Corporation issues shares of its capital stock pursuant to such merger or consolidation,

except any such merger or consolidation involving the Corporation or a subsidiary in which the shares of capital stock of the Corporation outstanding immediately prior to such merger or consolidation continue to represent, or are converted into or exchanged for shares of capital stock that represent, immediately following such merger or consolidation, at least a majority, by voting power, of the capital stock of (1) the surviving or resulting corporation or (2) if the surviving or resulting corporation is a wholly owned subsidiary of another corporation immediately following such merger or consolidation, the parent corporation of such surviving or resulting corporation; or

(b) the sale, lease, transfer, exclusive perpetual license or other disposition, in a single transaction or series of related transactions, by the Corporation or any subsidiary of the Corporation of all or substantially all the assets or intellectual property of the Corporation and its subsidiaries taken as a whole or the sale or disposition (whether by merger, consolidation or otherwise) of one or more subsidiaries of the Corporation if substantially all of the assets of the Corporation and its subsidiaries taken as a whole are held by such subsidiary or subsidiaries, except where such sale, lease, transfer, exclusive license or other disposition is to a wholly owned subsidiary of the Corporation.

2.4.2 Effecting a Deemed Liquidation Event.

(a) The Corporation shall not have the power to effect a Deemed Liquidation Event referred to in Subsection 2.4.1(a)(i) above unless the agreement or plan of merger or consolidation for such transaction (the "Merger Agreement") provides that the consideration payable to the stockholders of the Corporation shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1 through 2.3 above.

2.4.3 Allocation of Escrow and Contingent Consideration. In the event of a Deemed Liquidation Event pursuant to Subsection 2.4.1(a)(i), if any portion of the consideration payable to the stockholders of the Corporation is payable only upon satisfaction of contingencies (the "Additional Consideration"), the Merger Agreement shall provide that (a) the portion of such consideration that is not Additional Consideration (such portion, the "Initial Consideration"**)** shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1 and 2.2 as if the Initial Consideration were the only consideration payable in connection with such Deemed Liquidation Event; and (b) any Additional Consideration which becomes payable to the stockholders of the Corporation upon satisfaction of such contingencies shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1 and 2.2 after taking into account the previous payment of the Initial Consideration as part of the same transaction. For the purposes of this Subsection 2.4.3, consideration placed into escrow or retained as a holdback to be available for satisfaction of indemnification or similar obligations in connection with such Deemed Liquidation Event shall be deemed to be Initial Consideration.

2.4.4 Amount Deemed Paid or Distributed. If the amount deemed paid or distributed under this Subsection 2.4 is made in properly other than in cash, the value of such payment or distribution shall be the fair market value of such property, determined as follows:

(a) For securities not subject to investment letters or other similar restrictions on free marketability,

(b) if traded on a securities exchange, the value shall be deemed to be the average of the closing prices of the securities on such exchange or market over the 30-period ending three (3) days prior to the closing of such transaction;

(c) if actively traded over-the-counter, the value shall be deemed to be the average of the closing bid prices over the 30-day period ending three (3) days prior to the closing of such transaction; or

(d) if there is no active public market, the value shall be the fair market value thereof, as determined in good faith by the Board of Directors.

2.4.5 The method of valuation of securities subject to investment letters or other similar restrictions on free marketability (other than restrictions arising solely by virtue of a stockholder's status as an affiliate or former affiliate) shall take into account an appropriate discount (as determined in good faith by the Board of Directors) from the market value as determined pursuant to clause (a) above so as to reflect the approximate fair market value thereof.

3. Voting.

3.1 General. On any matter presented to the stockholders of the Corporation for their action or consideration at any meeting of stockholders of the Corporation (or by written consent of stockholders in lieu of a meeting), each holder of outstanding shares of Preferred Stock shall be entitled to cast the number of votes equal to the number of whole shares of Common Stock into which the shares of Preferred Stock held by such holder are convertible as of the record date for determining stockholders entitled to vote on such matter. Except as provided by law or by the other provisions of the Certificate of Incorporation, holders of Preferred Stock shall vote together with the holders of Common Stock as a single class, on an as-converted basis.

3.2 Election of Directors. The holders of record of the shares of Preferred Stock, exclusively and as a separate class, shall be entitled to elect three (3) directors of the Corporation (the "Preferred Directors"). Any director elected as provided in the preceding sentence may be removed without cause by, and only by, the affirmative vote of the holders of the shares of the class or series of capital stock entitled to elect such director or directors, given either at a special meeting of such stockholders duly called for that purpose (or by a written consent of stockholders in lieu of a meeting). If the holders of shares of Preferred Stock fail to elect a sufficient number of directors to fill all directorships for which they are entitled to elect directors, voting exclusively and as a separate class, pursuant to the first sentence of this Subsection 3.2, then any directorship not so filled shall remain vacant until such time as the holders of the Preferred Stock elect a person to fill such directorship by vote or written consent in lieu of a meeting; and no such directorship may be filled by stockholders of the Corporation other than by the

stockholders of the Corporation that are entitled to elect a person to fill such directorship, voting exclusively and as a separate class. The holders of record of the shares of Common Stock and of any other class or series of voting stock (including the Preferred Stock), exclusively and voting together as a single class, shall be entitled to elect the balance of the total number of directors of the Corporation. At any meeting held for the purpose of electing a director, the presence in person or by proxy of the holders of a majority of the outstanding shares of the class or series entitled to elect such director shall constitute a quorum for the purpose of electing such director. A vacancy in any directorship filled by the holders of any class or series shall be filled only by vote or written consent in lieu of a meeting of the holders of such class or series or by any remaining director or directors elected by the holders of such class or series pursuant to this Subsection 3.2.

4. Optional Conversion.

The holders of the Preferred Stock shall have conversion rights as follows (the "Conversion Rights"):

4.1 Right to Convert.

4.1.1 Conversion Ratio. Each share of Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the then applicable Original Issue Price thereof by the Applicable Conversion Price (as defined below) in effect at the time of conversion. The "Applicable Conversion Price" shall initially (as of the Series B Original Issue Date) be equal to (a) in the case of the Series A Preferred Stock, $6.50, and (b) in the case of the Series B Preferred Stock, $7.91. Such initial Applicable Conversion Price, and the respective rate at which shares of Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below.

4.1.2 Termination of Conversion Rights. In the event of a liquidation, dissolution or winding up of the Corporation or a Deemed Liquidation Event, the Conversion Rights shall terminate at the close of business on the last full day preceding the date fixed for the payment of any such amounts distributable on such event to the holders of Preferred Stock.

4.2 Fractional Shares. No fractional shares of Common Stock shall be issued upon conversion of the Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the fair market value of a share of Common Stock as determined in good faith by the Board of Directors. Whether or not fractional shares would be issuable upon such conversion shall be determined on the basis of the total number of shares of Preferred Stock the holder is at the time converting into Common Stock and the aggregate number of shares of Common Stock issuable upon such conversion.

4.3 Mechanics of Conversion.

4.3.1 Notice of Conversion. In order for a holder of Preferred Stock to voluntarily convert shares of Preferred Stock into shares of Common Stock, such holder shall surrender the certificate or certificates for such shares of Preferred Stock (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate), at the office of the transfer agent for the Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent), together with written notice that such holder elects to convert all or any number of the shares of Preferred Stock represented by such certificate or certificates and, if applicable, any event on which such conversion is contingent. Such notice shall state such holder's name or the names of the nominees in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. If required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by a written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or his, her or its attorney duly authorized in writing. The close of business on the date of receipt by the transfer agent (or by the Corporation if the Corporation serves as its own transfer agent) of such certificates (or lost certificate affidavit and agreement) and notice shall be the time of conversion (the "Conversion Time"), and the shares of Common Stock issuable upon conversion of the shares represented by such certificate shall be deemed to be outstanding of record as of such date. The Corporation shall, as soon as practicable after the Conversion Time, (i) issue and deliver to such holder of Preferred Stock, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable upon such conversion in accordance with the provisions hereof and, a certificate for the number (if any) of the shares of Preferred Stock represented by the surrendered certificate that were not converted into Common Stock, (ii) pay in cash such amount as provided in Subsection 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and (iii) pay all declared but unpaid dividends on the shares of Preferred Stock converted.

4.3.2 Reservation of Shares. The Corporation shall at all times when the Preferred Stock shall be outstanding, reserve and keep available out of its authorized but unissued capital stock, for the purpose of effecting the conversion of the Preferred Stock, such number of its duly authorized shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Preferred Stock, the Corporation shall take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to the Certificate of Incorporation. Before taking any action which would cause an adjustment reducing the Applicable Conversion Price below the then par value of the shares of Common Stock issuable upon conversion of the Preferred Stock, the Corporation will take any corporate action which may, in the opinion of its counsel. be necessary in order that the Corporation may validly and legally issue fully paid and nonassessable shares of Common Stock at such adjusted Applicable Conversion Price.

4.3.3 Effect of Conversion. All shares of Preferred Stock which shall have been surrendered for conversion as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares shall immediately cease and terminate at the Conversion Time, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor, to receive payment in lieu of any fraction of a share otherwise issuable upon such conversion as provided in Subsection 4.2 and to receive payment of any dividends declared but unpaid thereon. Any shares of Preferred Stock so converted shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Preferred Stock accordingly.

4.3.4 No Further Adjustment. Upon any such conversion, no adjustment to the Applicable Conversion Price shall be made for any declared but unpaid dividends on the Preferred Stock surrendered for conversion or on the Common Stock delivered upon conversion.

4.3.5 Taxes. The Corporation shall pay any and all issue and other similar taxes that may be payable in respect of any issuance or delivery of shares of Common Stock upon conversion of shares of Preferred Stock pursuant to this Section 4. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of shares of Common Stock in a name other than that in which the shares of Preferred Stock so converted were registered, and no such issuance or delivery shall be made unless and until the person or entity requesting such issuance has paid to the Corporation the amount of any such tax or has established, to the satisfaction of the Corporation, that such tax has been paid.

4.4 Adjustments to Applicable Conversion Price for Diluting Issues.

4.4.1 Special Definitions. For purposes of this Article Fourth, the following definitions shall apply:

(a) "Option" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.

(b) "Series B Original Issue Date" shall mean the date on which the first share of Series B Preferred Stock was issued.

(c) "Convertible Securities" shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options.

(d) "Additional Shares of Common Stock" shall mean all shares of Common Stock issued (or, pursuant to Subsection 4.4.3 below, deemed to be issued) by the Corporation after the Series B Original Issue Date, other than (1) the following shares of Common Stock and (2) shares of Common Stock deemed issued pursuant to the following Options and Convertible Securities (clauses (l) and (2), collectively "Exempted Securities"):

(i) shares of Common Stock, Options or Convertible Securities issued as a dividend or distribution on, or upon the conversion of, Preferred Stock, and shares of Common Stock actually issued upon the exercise of

such Options, or upon the conversion or exchange of such Convertible Securities or, in the case of Convertible Securities and Options therefor, upon the conversion or exchange of such Convertible Securities, in each case provided such issuance is pursuant to the terms of such Option or Convertible Security;

(ii) shares of Common Stock, Options or Convertible Securities issued by reason of a dividend, stock split, split-up or other distribution on shares of Common Stock that is covered by Subsections 4.5, 4.6, 4.7 or 4.8 below, and shares of Common Stock actually issued upon the exercise of such Options, or upon the conversion or exchange of such Convertible Securities or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, in each case provided such issuance is pursuant to the terms of such Option or Convertible Security;

(iii) shares of Common Stock or Options issued to employees or directors of, or consultants or advisors to, the Corporation or any of its subsidiaries pursuant to a plan, agreement or arrangement approved by the Board of Directors, and shares of Common Stock actually issued upon the exercise or conversion of such Options, in each case provided such issuance is pursuant to the terms of such Option;

(iv) shares of Common Stock, Options or Convertible Securities issued to banks, equipment lessors or other financial institutions, or to real property lessors, pursuant to a debt financing, equipment leasing or real property leasing transaction approved by the Board of Directors, and shares of Common Stock actually issued upon the exercise of such Options, or upon the conversion or exchange of such Convertible Securities or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, in each case provided such issuance is pursuant to the terms of such Option or Convertible Security;

(v) shares of Common Stock, Options or Convertible Securities issued to suppliers or third party service providers in connection with the provision of goods or services pursuant to transactions approved by the Board of Directors, and shares of Common Stock actually issued upon the exercise of such Options, or upon the conversion or exchange of such Convertible Securities or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, in each case provided such issuance is pursuant to the terms of such Option or Convertible Security; or

(vi) shares of Common Stock, Options or Convertible Securities issued pursuant to the acquisition of another corporation by the Corporation by merger, purchase of substantially all of the assets or other reorganization or to a joint venture agreement, provided that such issuances are approved by the Board of Directors, and shares of Common Stock actually issued upon the exercise of such Options, or upon the conversion or exchange of such Convertible Securities or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, in each case provided such issuance is pursuant to the terms of such Option or Convertible Security; or

(vii) shares of Common Stock, Options or Convertible Securities issued in connection with sponsored research, collaboration, technology license, development, OEM, marketing or other similar agreements or strategic partnerships approved by the Board of Directors, and shares of Common Stock issuable upon the exercise of such Options, or

upon the conversion or exchange of such Convertible Securities or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, in each case provided such issuance is pursuant to the terms of such Option or Convertible Security.

4.4.2 No Adjustment of Applicable Conversion Price. No adjustment in the Applicable Conversion Price shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from Stockholders representing the Required Vote agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock.

4.4.3 Deemed Issue of Additional Shares of Common Stock.

(a) If the Corporation at any time or from time to time after the Series B Original Issue Date shall issue any Options or Convertible Securities (excluding Options or Convertible Securities which are themselves Exempted Securities) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares of Common Stock (as set forth in the instrument relating thereto, assuming the satisfaction of any conditions to exercisability, convertibility or exchangeability but without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date.

(b) If the terms of any Option or Convertible Security, the issuance of which resulted in an adjustment to the Applicable Conversion Price pursuant to the terms of Subsection 4.4.4 below, are revised as a result of an amendment to such terms or if any other adjustment is made pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (l) any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any such Option or Convertible Security or (2) any increase or decrease in the consideration payable to the Corporation upon such exercise, conversion and/or exchange, then, effective upon such increase or decrease becoming effective, the Applicable Conversion Price computed upon the original issue of such Option or Convertible Security (or upon the occurrence of a record date with respect thereto) shall be readjusted to such Applicable Conversion Price as would have obtained had such revised terms been in effect upon the original date of issuance of such Option or Convertible Security. Notwithstanding the foregoing, no readjustment pursuant to this clause (b) shall have the effect of increasing the Applicable Conversion Price to an amount which exceeds the lower of (i) the Applicable Conversion Price in effect immediately prior to the original adjustment made as a result of the issuance of such Option or Convertible Security, or (ii) the Applicable Conversion Price that would have resulted from any issuances of Additional Shares of Common Stock (other than deemed issuances of Additional Shares of Common Stock as a result of the issuance of such Option or Convertible Security) between the original adjustment date and such readjustment date.

(c) If the terms of any Option or Convertible Security (excluding Options or Convertible Securities which are themselves Exempted Securities), the issuance of which did not result in an adjustment to the Applicable Conversion Price pursuant to the terms of Subsection 4.4.4 below (either because the consideration per share (determined pursuant to Subsection 4.4.5 hereof) of the Additional Shares of Common Stock subject thereto was equal to or greater than the Applicable Conversion Price then in effect, or because such Option or Convertible Security was issued before the Series B Original Issue Date), are revised after the Series B Original Issue Date as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase in the number of shares of Common Stock issuable upon the exercise, conversion or exchange of any such Option or Convertible Security or (2) any decrease in the consideration payable to the Corporation upon such exercise, conversion or exchange, then such Option or Convertible Security, as so amended or adjusted, and the Additional Shares of Common Stock subject thereto (determined in the manner provided in Subsection 4.4.3(a) above) shall be deemed to have been issued effective upon such increase or decrease becoming effective.

(d) Upon the expiration or termination of any unexercised Option or unconverted or unexchanged Convertible Security (or portion thereof) which resulted (either upon its original issuance or upon a revision of its terms) in an adjustment to the Applicable Conversion Price pursuant to the terms of Subsection 4.4.4 below, the Applicable Conversion Price shall be readjusted to such Applicable Conversion Price as would have obtained had such Option or Convertible Security (or portion thereof) never been issued.

(e) If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, is calculable at the time such Option or Convertible Security is issued or amended but is subject to adjustment based upon subsequent events, any adjustment to the Applicable Conversion Price provided for in this Subsection 4.4.3 shall be effected at the time of such issuance or amendment based on such number of shares or amount of consideration without regard to any provisions for subsequent adjustments (and any subsequent adjustments shall be treated as provided in clauses (b) and (c) of this Subsection 4.4.3). If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, cannot be calculated at all at the time such Option or Convertible Security is issued or amended, any adjustment to the Applicable Conversion Price that would result under the terms of this Subsection 4.4.3 at the time of such issuance or amendment shall instead be effected at the time such number of shares and/or amount of consideration is first calculable (even if subject to subsequent adjustments), assuming for purposes of calculating such adjustment to the Applicable Conversion Price that such issuance or amendment took place at the time such calculation can first be made.

4.4.4 Adjustment of Applicable Conversion Price Upon Issuance of Additional Shares of Common Stock. In the event the Corporation shall at any time after the Series B Original Issue Date issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to Subsection 4.4.3), without consideration or for a consideration per share less than the Applicable Conversion Price in effect immediately prior to such issuance or deemed issuance, then the Applicable Conversion Price shall be reduced, concurrently with such issue, to a price (calculated to the nearest one-hundredth of a cent) determined in accordance with the following formula:

$$CP_2 = CP_1 * (A + B) \div (A + C).$$

For purposes of the foregoing formula, the following definitions shall apply:

(a) "CP_2" shall mean the Applicable Conversion Price in effect immediately after such issuance or deemed issuance of Additional Shares of Common Stock;

(b) "CP_1" shall mean the Applicable Conversion Price in effect immediately prior to such issuance or deemed issuance of Additional Shares of Common Stock;

(c) "A" shall mean the number of shares of Common Stock outstanding immediately prior to such issue of Additional Shares of Common Stock (treating for this purpose as outstanding (without duplication) (i) all shares of Common Stock issuable upon exercise of Options outstanding immediately prior to such issuance or deemed issuance and (ii) all shares of Common Stock issuable upon conversion or exchange of Convertible Securities (including the Preferred Stock) outstanding (and assuming exercise of any outstanding Options therefor) immediately prior to such issuance or deemed issuance);

(d) "B" shall mean the number of shares of Common Stock that would have been issued if such Additional Shares of Common Stock had been issued at a price per share equal to CP_1 (determined by dividing the aggregate consideration received by the Corporation in respect of such issue by CP_1); and

(e) "C" shall mean the number of such Additional Shares of Common Stock issued or deemed issued in such transaction.

4.4.5 Determination of Consideration. For purposes of this Subsection 4.4, the consideration received by the Corporation for the issuance or deemed issuance of any Additional Shares of Common Stock shall be computed as follows:

(a) Cash and Property: Such consideration shall:

(i) insofar as it consists of cash, be computed at the aggregate amount of cash received by the Corporation, excluding amounts paid or payable for accrued interest;

(ii) insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors; and

(iii) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (i) and (ii) above, as determined in good faith by the Board of Directors.

(b) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Subsection 4.4.3, relating to Options and Convertible Securities, shall be determined by dividing

(i) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by

(ii) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities.

4.4.6 Multiple Closing Dates. In the event the Corporation shall issue on more than one date Additional Shares of Common Stock that are a part of one transaction or a series of related transactions and that would result in an adjustment to the Applicable Conversion Price pursuant to the terms of Subsection 4.4.4 above then, upon the final such issuance, the Applicable Conversion Price shall be readjusted to give effect to all such issuances as if they occurred on the date of the first such issuance (and without giving effect to any additional adjustments as a result of any such subsequent issuances within such period).

4.5 Adjustment for Stock Splits and Combinations. If the Corporation shall at any time or from time to time after the Series B Original Issue Date effect a subdivision of the outstanding Common Stock, the Applicable Conversion Price in effect immediately before that subdivision shall be proportionately decreased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be increased in proportion to such increase in the aggregate number of shares of Common Stock outstanding. If the Corporation shall at any time or from time to time after the Series B Original Issue Date combine the outstanding shares of Common Stock, the Applicable Conversion Price in effect immediately before the combination shall be proportionately increased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be decreased in proportion to such decrease in the aggregate number of shares of Common Stock outstanding. Any adjustment under this subsection shall become effective at the close of business on the date the subdivision or combination becomes effective.

4.6 Adjustment for Certain Dividends and Distributions. In the event the Corporation at any time or from time to time after the Series B Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable on the Common Stock in additional shares of Common Stock, then and in each such event the Applicable Conversion Price in effect immediately before such event shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Applicable Conversion Price then in effect by a fraction:

(1) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and

(2) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution.

Notwithstanding the foregoing, (a) if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Applicable Conversion Price shall be recomputed accordingly as of the close of business on such record date and thereafter the Applicable Conversion Price shall be adjusted pursuant to this subsection as of

the time of actual payment of such dividends or distributions; and (b) that no such adjustment shall be made if the holders of Preferred Stock simultaneously receive a dividend or other distribution of shares of Common Stock in a number equal to the number of shares of Common Stock as they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

4.7 Adjustments for Other Dividends and Distributions. In the event the Corporation at any time or from time to time after the Series B Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation (other than a distribution of shares of Common Stock in respect of outstanding shares of Common Stock) or in other property and the provisions of Section 1 do not apply to such dividend or distribution, then and in each such event the holders of Preferred Stock shall receive, simultaneously with the distribution to the holders of Common Stock, a dividend or other distribution of such securities or other property in an amount equal to the amount of such securities or other property as they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

4.8 Adjustment for Merger or Reorganization, etc. Subject to the provisions of Subsection 2.4, if there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Corporation in which the Common Stock (but not the Preferred Stock) is converted into or exchanged for securities, cash or other property (other than a transaction covered by Subsection 4.4, 4.6 or 4.7), then, following any such reorganization, recapitalization, reclassification, consolidation or merger, each share of Preferred Stock shall thereafter be convertible in lieu of the Common Stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of the Common Stock issuable upon conversion of one share of Preferred Stock immediately prior to such reorganization, recapitalization, reclassification, consolidation or merger would have been entitled to receive pursuant to such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board of Directors) shall be made in the application of the provisions in this Section 4 with respect to the rights and interests thereafter of the holders of the Preferred Stock, to the end that the provisions set forth in this Section 4 (including provisions with respect to changes in and other adjustments of the Applicable Conversion Price) shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of the Preferred Stock.

4.9 Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Applicable Conversion Price pursuant to this Section 4, the Corporation at its expense shall, as promptly as reasonably practicable but in any event not later than fifteen (15) days thereafter, compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of Preferred Stock a certificate setting forth such adjustment or readjustment (including the kind and amount of securities, cash or other property into which the Preferred Stock is convertible) and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, as promptly as reasonably practicable after the written request at any time of any holder of Preferred Stock (but in any event not later than fifteen (15) days thereafter), furnish or cause to be furnished to such holder a certificate setting forth (i) the Applicable Conversion Price then in effect, and (ii) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the conversion of Preferred Stock.

4.10 Notice of Record Date. In the event:

(a) the Corporation shall take a record of the holders of its Common Stock (or other capital stock or securities at the time issuable upon conversion of the Preferred Stock) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of capital stock of any class or any other securities, or to receive any other security; or

(b) of any capital reorganization of the Corporation, any reclassification of the Common Stock, or any Deemed Liquidation Event; or

(c) of the voluntary or involuntary dissolution, liquidation or winding-up of the Corporation,

then, and in each such case, the Corporation will send or cause to be sent to the holders of the Preferred Stock a notice specifying, as the case may be, (i) the record date for such dividend, distribution or right, and the amount and character of such dividend, distribution or right, or (ii) the effective date on which such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation, winding-up or a Deemed Liquidation Event is proposed to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other capital stock or securities at the time issuable upon the conversion of the Preferred Stock) shall be entitled to exchange their shares of Common Stock (or such other capital stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation, winding-up or a Deemed Liquidation Event, and the amount per share and character of such exchange applicable to the Preferred Stock and the Common Stock. Such notice shall be sent at least ten (10) days prior to the record date or effective date for the event specified in such notice.

5. Mandatory Conversion.

5.1 Trigger Events. Upon either (a) the date and time, or the occurrence of an event, specified by vote or written consent of the holders representing the Required Vote, or (b) the closing of the sale of shares of Common Stock to the public in a firm commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "Securities Act"), provided that the price per each share of the Common Stock in such sale to the public reflects a pre-money valuation of at least $200,000,000 and that such offering results in at least $50 million of gross proceeds to the Corporation (such an event a "QIPO"), (the date and time specified or the time of the event specified in such vote or written consent, or the time of such closing, respectively, is referred to herein as the "Mandatory Conversion Time"), (i) all outstanding shares of Preferred Stock shall automatically be converted into shares of Common Stock, at the then effective conversion rate thereof, and (ii) such shares may not be reissued by the Corporation.

5.2 Procedural Requirements. All holders of record of shares of Preferred Stock shall be sent written notice of the Mandatory Conversion Time and the place designated for mandatory conversion of all such shares of Preferred Stock pursuant to this Section 5. Such notice need not be sent in advance of the occurrence of the Mandatory Conversion Time. Upon receipt of such notice, each holder of shares of Preferred Stock shall surrender his, her or its certificate or certificates for all such shares (or, if such holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation at the place designated in such notice. At the Mandatory Conversion Time, all outstanding shares of Preferred Stock shall be deemed to have been converted into shares of Common Stock (notwithstanding the failure of the holder or holders thereof to surrender any certificates at or prior to such time), which shall be deemed to be outstanding of record as of such time, and all rights with respect to the Preferred Stock so converted, including the rights, if any, to receive notices and vote (other than as a holder of Common Stock), will terminate, except only the rights of the holders thereof, upon surrender of their certificate or certificates (or lost certificate affidavit and agreement) therefor, to receive the items provided for in the last sentence of this Subsection 5.2, and to receive payment of any dividends accrued and declared but unpaid thereon. If so required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or by his, her or its attorney duly authorized in writing. As soon as practicable after the Mandatory Conversion Time and the surrender of the certificate or certificates (or lost certificate affidavit and agreement) for Preferred Stock, the Corporation shall issue and deliver to such holder, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable on such conversion in accordance with the provisions hereof, together with cash as provided in Subsection 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and the payment of any declared but unpaid dividends on the shares of Preferred Stock converted.

5.3 Effect of Mandatory Conversion. Such converted Preferred Stock shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Preferred Stock accordingly.

6. Redeemed or Otherwise Acquired Shares. Any shares of Preferred Stock that are redeemed or otherwise acquired by the Corporation or any of its subsidiaries shall be automatically and immediately cancelled and retired and shall not be reissued, sold or transferred. Neither the Corporation nor any of its subsidiaries may exercise any voting or other rights granted to the holders of Preferred Stock following redemption.

7. Waiver. Any of the rights, powers, preferences and other terms of the Preferred Stock set forth herein may be waived on behalf of all holders of Preferred Stock by the affirmative written consent or vote of Stockholders representing the Required Vote.

8. Notices. Any notice required or permitted by the provisions of this Article Fourth to be given to a holder of shares of Preferred Stock shall be mailed, postage prepaid, to the post office address last shown on the records of the Corporation, or given by electronic communication in compliance with the provisions of the General Corporation Law, and shall be deemed sent upon such mailing or electronic transmission.

FIFTH: Subject to any additional vote required by the Certificate of Incorporation, in furtherance and not in limitation of the powers conferred by statute, the Board of Directors is expressly authorized to make, repeal, alter, amend and rescind any or all of the Bylaws of the Corporation.

SIXTH: Subject to any additional vote required by the Certificate of Incorporation, the number of directors of the Corporation shall be determined in the manner set forth in the Bylaws of the Corporation.

SEVENTH: Elections of directors need not be by written ballot unless the Bylaws of the Corporation shall so provide.

EIGHTH: Meetings of stockholders may be held within or without the State of Delaware, as the Bylaws of the Corporation may provide. The books of the Corporation may be kept outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the Bylaws of the Corporation.

NINTH: To the fullest extent permitted by law, a director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. If the General Corporation Law or any other law of the State of Delaware is amended after approval by the stockholders of this Article Ninth to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law as so amended.

Any repeal or modification of the foregoing provisions of this Article Ninth by the stockholders of the Corporation shall not adversely affect any right or protection of a director of the Corporation existing at the time of, or increase the liability of any director of the Corporation with respect to any acts or omissions of such director occurring prior to, such repeal or modification.

TENTH: To the fullest extent permitted by applicable law, the Corporation is authorized to provide indemnification of (and advancement of expenses to) directors, officers and agents of the Corporation (and any other persons to which General Corporation Law permits the Corporation to provide indemnification) through Bylaw provisions, agreements with such agents or other persons, vote of stockholders or disinterested directors or otherwise, in excess of the indemnification and advancement otherwise permitted by Section 145 of the General Corporation Law.

Any amendment, repeal or modification of the foregoing provisions of this Article Tenth shall not adversely affect any right or protection of any director, officer or other agent of the Corporation existing at the time of such amendment, repeal or modification.

ELEVENTH: The Corporation renounces, to the fullest extent permitted by law, any interest or expectancy of the Corporation in, or in being offered an opportunity to participate in, any Excluded Opportunity (as defined below). An "Excluded Opportunity" is any matter, transaction or interest that is presented to, or acquired, created or developed by, or which otherwise comes into the possession of, (i) any director of the Corporation who is not an employee of the

Corporation or any of its subsidiaries, or (ii) any holder of Preferred Stock or any partner, member, director, stockholder, employee or agent of any such holder, other than someone who is an employee of the Corporation or any of its subsidiaries (collectively, "Covered Persons"), unless such matter, transaction or interest is presented to, or acquired, created or developed by, or otherwise comes into the possession of, a Covered Person expressly and solely in such Covered Person's capacity as a director of the Corporation.

TWELFTH: Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery in the State of Delaware shall be the sole and exclusive forum for any stockholder (including a beneficial owner) to bring (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of fiduciary duty owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action asserting a claim against the Corporation, its directors, officers or employees arising pursuant to any provision of the Delaware General Corporation Law or the Corporation's certificate of incorporation or bylaws or (iv) any action asserting a claim against the Corporation, its directors, officers or employees governed by the internal affairs doctrine, except for, as to each of (i) through (iv) above, any claim as to which the Court of Chancery determines that there is an indispensable party not subject to the jurisdiction of the Court of Chancery (and the indispensable party does not consent to the personal jurisdiction of the Court of Chancery within ten days following such determination), which is vested in the exclusive jurisdiction of a court or forum other than the Court of Chancery, or for which the Court of Chancery does not have subject matter jurisdiction. If any provision or provisions of this Article Twelfth shall be held to be invalid, illegal or unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law, the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Article Twelfth (including, without limitation, each portion of any sentence of this Article Twelfth containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) and the application of such provision to other persons or entities and circumstances shall not in any way be affected or impaired thereby.

THIRTEENTH: For purposes of Section 500 of the California Corporations Code (to the extent applicable), in connection with any repurchase of shares of Common Stock permitted under this Certificate of Incorporation from employees, officers, directors or consultants of the Company in connection with a termination of employment or services pursuant to agreements or arrangements approved by the Board of Directors (in addition to any other consent required under this Certificate of Incorporation), such repurchase may be made without regard to any "preferential dividends arrears amount" or "preferential rights amount" (as those terms are defined in Section 500 of the California Corporations Code). Accordingly, for purposes of making any calculation under California Corporations Code Section 500 in connection with such repurchase, the amount of any "preferential dividends arrears amount" or "preferential rights amount" (as those terms are defined therein) shall be deemed to be zero (0).

* * *

3. That the foregoing amendment and restatement was approved by the holders of the requisite number of shares of this corporation in accordance with Section 228 of the General Corporation Law.

4. That this Amended and Restated Certificate of Incorporation, which restates and integrates and further amends the provisions of this Corporation's Amended and Restated Certificate of Incorporation, has been duly adopted in accordance with Sections 242 and 245 of the General Corporation Law.

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IN WITNESS WHEREOF, this Amended and Restated Certificate of Incorporation has been executed by a duly authorized officer of this corporation on this 19 day of December, 2018.

By: /s/ David Sidransky
Name: David Sidransky
Title: President

CERTIFICATE OF AMENDMENT

TO

AMENDED AND RESTATED CERTIFICATE OF INCORPORATION

OF

AYALA PHARMACEUTICALS, INC.

Ayala Pharmaceuticals, Inc., a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware (the "Corporation"), DOES HEREBY CERTIFY:

FIRST: That the Board of Directors of the Corporation duly adopted resolutions at a meeting recommending and declaring advisable that the Amended and Restated Certificate of Incorporation of the Corporation be amended and that such amendments be submitted to the stockholders of the Corporation for their consideration, as follows:

RESOLVED, that the first paragraph of Article FOURTH of the Amended and Restated Certificate of Incorporation of the Corporation be amended and restated in its entirety to read as follows:

"Effective on the filing of this Certificate of Amendment to Amended and Restated Certificate of Incorporation with the Secretary of State of the State of Delaware (the "**Effective Time**"), a one-for-two reverse split of the Corporation's Common Stock shall become effective, pursuant to which each two shares of Common Stock outstanding and held of record by each stockholder of the Corporation (including treasury shares) immediately prior to the Effective Time shall be reclassified and combined into one validly issued, fully-paid and nonassessable share of Common Stock automatically and without any action by the holder thereof upon the Effective Time and shall represent one share of Common Stock from and after the Effective Time (such reclassification and combination of shares, the "**Reverse Stock Split**"). The par value of the Common Stock and the Preferred Stock following the Reverse Stock Split shall remain at $0.01 per share. No fractional shares of Common Stock shall be issued as a result of the Reverse Stock Split and, in lieu thereof, upon surrender after the Effective Time of a certificate which formerly represented shares of Common Stock that were issued and outstanding immediately prior to the Effective Time, any person who would otherwise be entitled to a fractional share of Common Stock as a result of the Reverse Stock Split, following the Effective Time, shall be entitled to receive a cash payment equal to the fraction of which such holder would otherwise be entitled multiplied by the fair market value per share as determined in good faith by the Board of Directors.

Each stock certificate that, immediately prior to the Effective Time, represented shares of Common Stock that were issued and

outstanding immediately prior to the Effective Time shall, from and after the Effective Time, automatically and without the necessity of presenting the same for exchange, represent that number of whole shares of Common Stock after the Effective Time into which the shares formerly represented by such certificate have been reclassified (as well as the right to receive cash in lieu of fractional shares of Common Stock after the Effective Time); provided, however, that each person of record holding a certificate that represented shares of Common Stock that were issued and outstanding immediately prior to the Effective Time shall receive, upon surrender of such certificate, a new certificate evidencing and representing the number of whole shares of Common Stock after the Effective Time into which the shares of Common Stock formerly represented by such certificate shall have been reclassified; and provided further, however, that whether or not fractional shares would be issuable as a result of the Reverse Stock Split shall be determined on the basis of (i) the total number of shares of Common Stock that were issued and outstanding immediately prior to the Effective Time formerly represented by certificates that the holder is at the time surrendering for a new certificate evidencing and representing the number of whole shares of Common Stock after the Effective Time and (ii) the aggregate number of shares of Common Stock after the Effective Time into which the shares of Common Stock formerly represented by such certificates shall have been reclassified.

The total number of shares of all classes of stock which the Corporation shall have authority to issue is 208,200,000, consisting of (i) 200,000,000 shares of Common Stock, $0.01 par value per share ("**Common Stock**"), and (ii) 8,200,000 shares of Preferred Stock, $0.01 par value per share ("**Preferred Stock**"), of which 3,700,000 shares have been designated "Series A Preferred Stock," and 4,500,000 shares have been designated "Series B Preferred Stock."

RESOLVED, that Subsection 5.1 of Part B of Article FOURTH of the Amended and Restated Certificate of Incorporation of the Corporation be amended and restated in its entirety to read as follows:

"5.1 Trigger Events. Upon either (a) the date and time, or the occurrence of an event, specified by vote or written consent of the holders representing the Required Vote, or (b) the closing of the sale of shares of Common Stock to the public in a firm commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "Securities Act") (the date and time specified or the time of the event specified in such vote or written consent, or the time of such closing, respectively, is referred to herein as the "Mandatory Conversion Time"), (i) all outstanding shares of Preferred Stock shall automatically be converted into shares of Common Stock, at the then effective conversion rate thereof, and (ii) such shares may not be reissued by the Corporation."

SECOND: That in lieu of a meeting and vote of stockholders, the stockholders have given written consent to said amendments in accordance with the provisions of Section 228 of the General Corporation Law of the State of Delaware.

THIRD: That the aforesaid amendments were duly adopted in accordance with the applicable provisions of Section 242 of the General Corporation Law of the State of Delaware.

* * *

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to be signed by Roni Mamluk, the Chief Executive Officer of the Corporation, this 4th day of May, 2020.

AYALA PHARMACEUTICALS, INC.

By: /s/ Roni Mamluk, Ph.D.
Roni Mamluk, Ph.D.
Chief Executive Officer

Exhibit 3.3

RESTATED CERTIFICATE OF INCORPORATION

OF

AYALA PHARMACEUTICALS, INC.

The name of the corporation is Ayala Pharmaceuticals, Inc. The corporation was originally incorporated by the filing of its original Certificate of Incorporation with the Secretary of State of the State of Delaware on November 14, 2017. This Restated Certificate of Incorporation of the corporation, which restates and integrates and also further amends the provisions of the corporation's Certificate of Incorporation, was duly adopted in accordance with the provisions of Sections 242 and 245 of the General Corporation Law of the State of Delaware and by the written consent of its stockholders in accordance with Section 228 of the General Corporation Law of the State of Delaware. The Certificate of Incorporation of the corporation is hereby amended, integrated and restated to read in its entirety as follows:

FIRST: The name of the Corporation is Ayala Pharmaceuticals, Inc. (the "Corporation").

SECOND: The address of the Corporation's registered office in the State of Delaware is 1313 N. Market Street, Suite 5100, in the City of Wilmington, County of New Castle, Delaware 19801. The name of its registered agent at that address is PHS Corporate Services, Inc.

THIRD: The nature of the business or purposes to be conducted or promoted by the Corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware.

FOURTH: The total number of shares of all classes of stock which the Corporation shall have authority to issue is 210,000,000 shares, consisting of (a) 200,000,000 shares of Common Stock, $0.01 par value per share ("Common Stock"), and (b) 10,000,000 shares of Preferred Stock, $0.01 par value per share ("Preferred Stock").

The following is a statement of the designations and the powers, privileges and rights, and the qualifications, limitations or restrictions thereof in respect of each class of capital stock of the Corporation.

A. COMMON STOCK.

1. General. The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights of the holders of the Preferred Stock of any series as may be designated by the Board of Directors of the Corporation (the "Board of Directors") upon any issuance of the Preferred Stock of any series.

2. Voting. The holders of the Common Stock shall have voting rights at all meetings of stockholders, each such holder being entitled to one vote for each share thereof held by such holder; provided, however, that, except as otherwise required by law, holders of Common Stock shall not be entitled to vote on any amendment to this Restated Certificate of Incorporation (which,

as used herein, shall mean the certificate of incorporation of the Corporation, as amended from time to time, including the terms of any certificate of designations of any series of Preferred Stock) that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together as a class with the holders of one or more other such series, to vote thereon pursuant to this Restated Certificate of Incorporation or the General Corporation Law of the State of Delaware. There shall be no cumulative voting.

The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law of the State of Delaware.

3. Dividends. Dividends may be declared and paid on the Common Stock if, as and when determined by the Board of Directors subject to any preferential dividend or other rights of any then outstanding Preferred Stock and to the requirements of applicable law.

4. Liquidation. Upon the dissolution or liquidation of the Corporation, whether voluntary or involuntary, holders of Common Stock will be entitled to receive all assets of the Corporation available for distribution to its stockholders, subject to any preferential or other rights of any then outstanding Preferred Stock.

B. PREFERRED STOCK.

Preferred Stock may be issued from time to time in one or more series, each of such series to have such terms as stated or expressed herein and in the resolution or resolutions providing for the issue of such series adopted by the Board of Directors as hereinafter provided.

Authority is hereby expressly granted to the Board of Directors from time to time to issue the Preferred Stock in one or more series, and in connection with the creation of any such series, by adopting a resolution or resolutions providing for the issuance of the shares thereof and by filing a certificate of designations relating thereto in accordance with the General Corporation Law of the State of Delaware, to determine and fix the number of shares of such series and such voting powers, full or limited, or no voting powers, and such designations, preferences and relative, participating, optional or other special rights, and qualifications, limitations or restrictions thereof, including without limitation thereof, dividend rights, conversion rights, redemption privileges and liquidation preferences, as shall be stated and expressed in such resolutions, all to the fullest extent now or hereafter permitted by the General Corporation Law of the State of Delaware. The powers, preferences and relative, participating, optional and other special rights of each such series of Preferred Stock, and the qualifications, limitations or restrictions thereof, if any, may differ from those of any and all other series at any time outstanding. Without limiting the generality of the foregoing, the resolution or resolutions providing for the issuance of any series of Preferred Stock may provide that such series shall be superior or rank equally or be junior to any other series of Preferred Stock to the extent permitted by law.

Subject to the rights of the holders of any series of Preferred Stock pursuant to the terms of this Restated Certificate of Incorporation or any resolution or resolutions providing for the issuance of such series of stock adopted by the Board of Directors, the number of authorized shares of Preferred Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law of the State of Delaware.

FIFTH: Except as otherwise provided herein, the Corporation reserves the right to amend, alter, change or repeal any provision contained in this Restated Certificate of Incorporation, in the manner now or hereafter prescribed by statute and this Restated Certificate of Incorporation, and all rights conferred upon stockholders, directors or any other persons herein are granted subject to this reservation.

SIXTH: In furtherance and not in limitation of the powers conferred upon it by the General Corporation Law of the State of Delaware, and subject to the terms of any series of Preferred Stock, the Board of Directors shall have the power to adopt, amend, alter or repeal the Bylaws of the Corporation. The stockholders may not adopt, amend, alter or repeal the Bylaws of the Corporation, or adopt any provision inconsistent therewith, unless such action is approved, in addition to any other vote required by this Restated Certificate of Incorporation, by the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock of the Corporation entitled to vote thereon. Notwithstanding any other provisions of law, this Restated Certificate of Incorporation or the Bylaws of the Corporation, and notwithstanding the fact that a lesser percentage may be specified by law, the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock of the Corporation entitled to vote thereon shall be required to amend or repeal, or to adopt any provision inconsistent with, this Article SIXTH.

SEVENTH: Except to the extent that the General Corporation Law of the State of Delaware prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty, no director of the Corporation shall be personally liable to the Corporation or its stockholders for monetary damages for any breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability. No amendment to or repeal of this provision shall apply to or have any effect on the liability or alleged liability of any director of the Corporation for or with respect to any acts or omissions of such director occurring prior to such amendment or repeal. If the General Corporation Law of the State of Delaware is amended to permit further elimination or limitation of the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law of the State of Delaware as so amended.

EIGHTH: This Article EIGHTH is inserted for the management of the business and for the conduct of the affairs of the Corporation.

1. General Powers. The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors.

2. Number of Directors; Election of Directors. Subject to the rights of holders of any series of Preferred Stock to elect directors, the number of directors of the Corporation shall be established from time to time by the Board of Directors. Election of directors need not be by written ballot, except as and to the extent provided in the Bylaws of the Corporation.

3. Classes of Directors. Subject to the rights of holders of any series of Preferred Stock to elect directors, the Board of Directors shall be and is divided into three classes, designated as Class I, Class II and Class III. Each class shall consist, as nearly as may be possible, of one-third of the total number of directors constituting the entire Board of Directors. The Board of Directors is authorized to assign members of the Board of Directors to Class I, Class II or Class III.

4. Terms of Office. Subject to the rights of holders of any series of Preferred Stock to elect directors, each director shall serve for a term ending on the date of the third annual meeting of stockholders following the annual meeting of stockholders at which such director was elected; provided that each director initially assigned to Class I shall serve for a term expiring at the Corporation's first annual meeting of stockholders held after the effectiveness of this Restated Certificate of Incorporation; each director initially assigned to Class II shall serve for a term expiring at the Corporation's second annual meeting of stockholders held after the effectiveness of this Restated Certificate of Incorporation; and each director initially assigned to Class III shall serve for a term expiring at the Corporation's third annual meeting of stockholders held after the effectiveness of this Restated Certificate of Incorporation; provided further, that the term of each director shall continue until the election and qualification of his or her successor and be subject to his or her earlier death, resignation or removal.

5. Quorum. The greater of (a) a majority of the directors at any time in office and (b) one-third of the number of directors fixed pursuant to Section 2 of this Article EIGHTH shall constitute a quorum of the Board of Directors. If at any meeting of the Board of Directors there shall be less than such a quorum, a majority of the directors present may adjourn the meeting from time to time without further notice other than announcement at the meeting, until a quorum shall be present.

6. Action at Meeting. Every act or decision done or made by a majority of the directors present at a meeting duly held at which a quorum is present shall be regarded as the act of the Board of Directors unless a greater number is required by law or by this Restated Certificate of Incorporation.

7. Removal. Subject to the rights of holders of any series of Preferred Stock, directors of the Corporation may be removed but only for cause and only by the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock of the Corporation entitled to vote at an election of directors.

8. Vacancies. Subject to the rights of holders of any series of Preferred Stock, any vacancy or newly created directorship in the Board of Directors, however occurring, shall be filled only by vote of a majority of the directors then in office, although less than a quorum, or by a sole remaining director and shall not be filled by the stockholders, unless the Board of Directors determines by resolution that any such vacancy or newly created directorship shall be filled by the stockholders. A director elected to fill a vacancy shall hold office until the next election of the class for which such director shall have been chosen, subject to the election and qualification of a successor and to such director's earlier death, resignation or removal.

9. Stockholder Nominations and Introduction of Business, Etc. Advance notice of stockholder nominations for election of directors and other business to be brought by stockholders before a meeting of stockholders shall be given in the manner provided by the Bylaws of the Corporation.

10. Amendments to Article. Notwithstanding any other provisions of law, this Restated Certificate of Incorporation or the Bylaws of the Corporation, and notwithstanding the fact that a lesser percentage may be specified by law, the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock of the Corporation entitled to vote thereon shall be required to amend or repeal, or to adopt any provision inconsistent with, this Article EIGHTH.

NINTH: No action that is required or permitted to be taken by the stockholders of the Corporation at any annual or special meeting of stockholders may be effected by written consent of stockholders in lieu of a meeting. Notwithstanding any other provisions of law, this Restated Certificate of Incorporation or the Bylaws of the Corporation, and notwithstanding the fact that a lesser percentage may be specified by law, the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock of the Corporation entitled to vote thereon shall be required to amend or repeal, or to adopt any provision inconsistent with, this Article NINTH.

TENTH: Special meetings of stockholders for any purpose or purposes may be called at any time only by the Board of Directors, the chairperson of the Board of Directors, the chief executive officer or the president (in the absence of a chief executive officer) of the Corporation, and may not be called by any other person or persons. Business transacted at any special meeting of stockholders shall be limited to the purpose or purposes stated in the notice of meeting. Notwithstanding any other provisions of law, this Restated Certificate of Incorporation or the Bylaws of the Corporation, and notwithstanding the fact that a lesser percentage may be specified by law, the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock of the Corporation entitled to vote thereon shall be required to amend or repeal, or to adopt any provision inconsistent with, this Article TENTH.

ELEVENTH: Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall, to the fullest extent permitted by law, be the sole and exclusive forum for (a) any derivative action or proceeding brought on behalf of the Corporation, (b) any action asserting a claim of breach of fiduciary duty owed by any director, officer, employee or stockholder of the Corporation to the Corporation or the Corporation's stockholders, (c) any action asserting a claim arising pursuant to any provision of the General Corporation Law of the State of Delaware or as to which the General Corporation Law of the State of Delaware confers jurisdiction on the Court of Chancery of the State of Delaware or (d) any action asserting a claim governed by the internal affairs doctrine, in each case subject to said Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein; provided that, the provisions of this sentence will not apply to suits brought to enforce any liability or duty created by the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, or any other claim for which the federal courts have exclusive jurisdiction;

and provided further that, if and only if the Court of Chancery of the State of Delaware dismisses any such action for lack of subject matter jurisdiction, such action may be brought in another state or federal court sitting in the State of Delaware. Unless the Corporation consents in writing to the selection of an alternative forum, the federal district courts of the United States of America shall, to the fullest extent permitted by law, be the sole and exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act of 1933, as amended. To the fullest extent permitted by applicable law, any person or entity purchasing or otherwise acquiring or holding any interest in shares of capital stock of the Corporation shall be deemed to have notice of and consented to the provisions of this Article ELEVENTH. Notwithstanding any other provisions of law, this Restated Certificate of Incorporation or the Bylaws of the Corporation, and notwithstanding the fact that a lesser percentage may be specified by law, the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock of the Corporation entitled to vote thereon shall be required to amend or repeal, or to adopt any provision inconsistent with, this Article ELEVENTH. If any provision or provisions of this Article ELEVENTH shall be held to be invalid, illegal or unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law, the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Article ELEVENTH (including, without limitation, each portion of any sentence of this Article ELEVENTH containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) and the application of such provision to other persons or entities and circumstances shall not in any way be affected or impaired thereby.

IN WITNESS WHEREOF, this Restated Certificate of Incorporation, which restates, integrates and amends the certificate of incorporation of the Corporation, and which has been duly adopted in accordance with Sections 228, 242 and 245 of the General Corporation Law of the State of Delaware, has been executed by its duly authorized officer this day of May, 2020.

AYALA PHARMACEUTICALS, INC.

By: _____
Name: Roni Mamluk, Ph.D.
Title: Chief Executive Officer

Exhibit 3.4

AMENDED AND RESTATED

BYLAWS

OF

AYALA PHARMACEUTICALS, INC.

(a Delaware corporation)

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AMENDED AND RESTATED BYLAWS
OF
AYALA PHARMACEUTICALS, INC.

ARTICLE I - CORPORATE OFFICES

1.1 REGISTERED OFFICE.

The registered office of Ayala Pharmaceuticals, Inc. (the "Corporation") shall be fixed in the Corporation's certificate of incorporation, as the same may be amended and/or restated from time to time (the "certificate of incorporation").

1.2 OTHER OFFICES.

The Corporation may have other offices at any place or places, either within or outside the State of Delaware, as the Corporation's board of directors (the "Board") shall from time to time determine or the business of the Corporation may from time to time require.

ARTICLE II - MEETINGS OF STOCKHOLDERS

2.1 PLACE OF MEETINGS.

Meetings of stockholders shall be held at any place, within or outside the State of Delaware, designated by the Board. The Board may, in its sole discretion, determine that a meeting of stockholders shall not be held at any place, but may instead be held solely by means of remote communication as authorized by Section 211(a) of the General Corporation Law of the State of Delaware (the "DGCL"). In the absence of any such designation or determination, stockholders' meetings shall be held at the Corporation's principal executive office.

2.2 ANNUAL MEETING.

The Board shall designate the date and time of the annual meeting. At the annual meeting, directors shall be elected and other proper business properly brought before the meeting in accordance with Section 2.4 of these bylaws may be transacted.

2.3 SPECIAL MEETING.

A special meeting of the stockholders may be called at any time by the Board, chairperson of the Board, chief executive officer or president (in the absence of a chief executive officer) of the Corporation, but such special meetings may not be called by any other person or persons.

No business may be transacted at such special meeting other than the business specified in such notice to stockholders. Nothing contained in this paragraph of this Section 2.3 shall be construed as limiting, fixing, or affecting the time when a meeting of stockholders called by action of the Board may be held.

2.4 ADVANCE NOTICE PROCEDURES FOR BUSINESS BROUGHT BEFORE A MEETING.

(a) At an annual meeting of the stockholders, only such business shall be conducted as shall have been properly brought before the meeting. To be properly brought before an annual meeting, business must be (i) brought before the meeting by the Corporation and specified in a notice of meeting given by or at the direction of the Board, (ii) brought before the meeting by or at the direction of the Board (or a committee thereof) or (iii) otherwise properly brought before the meeting by a stockholder who (A) was a stockholder of record of the Corporation (and, with respect to any beneficial owner, if different, on whose behalf such business is proposed, only if such beneficial owner was the beneficial owner of shares of the Corporation) both at the time of giving the notice provided for in this Section 2.4 and at the time of the meeting, (B) is entitled to vote at the meeting and (C) has complied with this Section 2.4 as to such business. Except for proposals properly made in accordance with Rule 14a-8 under the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder (as so amended and inclusive of such rules and regulations, the "Exchange Act"), and included in the notice of meeting given by or at the direction of the Board, the foregoing clause (iii) shall be the exclusive means for a stockholder to propose business to be brought before an annual meeting of the stockholders. Stockholders shall not be permitted to propose business to be brought before a special meeting of the stockholders, and the only matters that may be brought before a special meeting are the matters specified in the notice of meeting given by or at the direction of the person calling the meeting pursuant to Section 2.3 of these bylaws. Stockholders seeking to nominate persons for election to the Board must comply with Section 2.5 of these bylaws, and this Section 2.4 shall not be applicable to nominations except as expressly provided in Section 2.5 of these bylaws.

(b) Without qualification, for business to be properly brought before an annual meeting by a stockholder pursuant to clause (iii) of the second sentence of Section 2.4(a) of these bylaws, the stockholder must (i) provide Timely Notice (as defined below) thereof in writing and in proper form to the secretary of the Corporation and (ii) provide any updates or supplements to such notice at the times and in the forms required by this Section 2.4. To be timely, a stockholder's notice must be delivered to, or mailed and received by the Secretary at, the principal executive offices of the Corporation not less than ninety (90) days nor more than one hundred twenty (120) days prior to the first anniversary of the preceding year's annual meeting; *provided, however*, that, if the date of the annual meeting is more than thirty (30) days before or more than sixty (60) days after such anniversary date, notice by the stockholder to be timely must be so delivered, or mailed and received, not earlier than the close of business on the one hundred twentieth (120th) day prior to such annual meeting and not later than the later of the close of business on the ninetieth (90th)

day prior to such annual meeting and the close of business on the tenth (10th) day following the day on which public disclosure of the date of such annual meeting was first made (such notice within such time periods, "Timely Notice"); *provided*, *further*, that for the purposes of calculating Timely Notice for the first annual meeting held after the Company's initial public offering of its shares pursuant to a registration statement on Form S-1, the date of the immediately preceding annual meeting shall be deemed to be June 5, 2020. In no event shall any adjournment or postponement of an annual meeting or the announcement thereof commence a new time period (or extend any time period) for the giving of Timely Notice as described above.

(c) To be in proper form for purposes of this Section 2.4, a stockholder's notice to the secretary of the Corporation shall set forth:

(i) As to each Proposing Person (as defined below), (A) the name and address of such Proposing Person (including, without limitation, if applicable, the name and address that appear on the Corporation's books and records) and (B) the class or series and number of shares of the Corporation that are, directly or indirectly, owned of record or beneficially owned (within the meaning of Rule 13d-3 under the Exchange Act) by such Proposing Person, except that such Proposing Person shall in all events be deemed to beneficially own any shares of any class or series of the Corporation as to which such Proposing Person has a right to acquire beneficial ownership at any time in the future (the disclosures to be made pursuant to the foregoing clauses (A) and (B) are referred to as "Stockholder Information");

(ii) As to each Proposing Person, (A) any derivative, swap or other transaction or series of transactions engaged in, directly or indirectly, by such Proposing Person, the purpose or effect of which is to give such Proposing Person economic risk similar to ownership of shares of any class or series of the Corporation, including, without limitation, due to the fact that the value of such derivative, swap or other transactions are determined by reference to the price, value or volatility of any shares of any class or series of the Corporation, or which derivative, swap or other transactions provide, directly or indirectly, the opportunity to profit from any increase in the price or value of shares of any class or series of the Corporation ("Synthetic Equity Interests"), which Synthetic Equity Interests shall be disclosed without regard to whether (x) the derivative, swap or other transactions convey any voting rights in such shares to such Proposing Person, (y) the derivative, swap or other transactions are required to be, or are capable of being, settled through delivery of such shares or (z) such Proposing Person may have entered into other transactions that hedge or mitigate the economic effect of such derivative, swap or other transactions, (B) any proxy (other than a revocable proxy or consent given in response to a solicitation made pursuant to, and in accordance with, Section 14(a) of the Exchange Act by way of a solicitation statement filed on Schedule 14A), agreement, arrangement, understanding or relationship pursuant to which such Proposing Person has or shares a right to vote

any shares of any class or series of the Corporation, (C) any agreement, arrangement, understanding or relationship, including, without limitation, any repurchase or similar so-called "stock borrowing" agreement or arrangement, engaged in, directly or indirectly, by such Proposing Person, the purpose or effect of which is to mitigate loss to, reduce the economic risk (of ownership or otherwise) of shares of any class or series of the Corporation by, manage the risk of share price changes for, or increase or decrease the voting power of, such Proposing Person with respect to the shares of any class or series of the Corporation, or which provides, directly or indirectly, the opportunity to profit from any decrease in the price or value of the shares of any class or series of the Corporation ("Short Interests"), (D) any rights to dividends on the shares of any class or series of the Corporation owned beneficially by such Proposing Person that are separated or separable from the underlying shares of the Corporation, (E) any performance related fees (other than an asset based fee) that such Proposing Person is entitled to based on any increase or decrease in the price or value of shares of any class or series of the Corporation, or any Synthetic Equity Interests or Short Interests, if any, (F)(x) if such Proposing Person is not a natural person, the identity of the natural person or persons associated with such Proposing Person responsible for the formulation of and decision to propose the business to be brought before the meeting (such person or persons, the "Responsible Person"), the manner in which such Responsible Person was selected, any fiduciary duties owed by such Responsible Person to the equity holders or other beneficiaries of such Proposing Person, the qualifications and background of such Responsible Person and any material interests or relationships of such Responsible Person that are not shared generally by any other record or beneficial holder of the shares of any class or series of the Corporation and that reasonably could have influenced the decision of such Proposing Person to propose such business to be brought before the meeting, and (y) if such Proposing Person is a natural person, the qualifications and background of such natural person and any material interests or relationships of such natural person that are not shared generally by any other record or beneficial holder of the shares of any class or series of the Corporation and that reasonably could have influenced the decision of such Proposing Person to propose such business to be brought before the meeting, (G) any significant equity interests or any Synthetic Equity Interests or Short Interests in any principal competitor of the Corporation held by such Proposing Persons, (H) any direct or indirect interest of such Proposing Person in any contract with the Corporation, any affiliate of the Corporation or any principal competitor of the Corporation (including, without limitation, in any such case, any employment agreement, collective bargaining agreement or consulting agreement), (I) any pending or threatened litigation in which such Proposing Person is a party or material participant involving the Corporation or any of its officers or directors, or any affiliate of the Corporation, (J) any material transaction occurring during the prior twelve months between such Proposing Person, on the one hand, and the Corporation, any affiliate of the

Corporation or any principal competitor of the Corporation, on the other hand, (K) a summary of any material discussions regarding the business proposed to be brought before the meeting (x) between or among any of the Proposing Persons or (y) between or among any Proposing Person and any other record or beneficial holder of the shares of any class or series of the Corporation (including, without limitation, their names) and (L) any other information relating to such Proposing Person that would be required to be disclosed in a proxy statement or other filing required to be made in connection with solicitations of proxies or consents by such Proposing Person in support of the business proposed to be brought before the meeting pursuant to Section 14(a) of the Exchange Act (the disclosures to be made pursuant to the foregoing clauses (A) through (L) are referred to as "Disclosable Interests"); *provided, however*, that Disclosable Interests shall not include any such disclosures with respect to the ordinary course business activities of any broker, dealer, commercial bank, trust company or other nominee who is a Proposing Person solely as a result of being the stockholder directed to prepare and submit the notice required by these bylaws on behalf of a beneficial owner; and

(iii) As to each item of business that the stockholder proposes to bring before the annual meeting, (A) a reasonably brief description of the business desired to be brought before the annual meeting, the reasons for conducting such business at the annual meeting and any material interest in such business of each Proposing Person, (B) the text of the proposal or business (including, without limitation, the text of any resolutions proposed for consideration and in the event that such business includes a proposal to amend the bylaws of the Corporation, the language of the proposed amendment), (C) a reasonably detailed description of all agreements, arrangements and understandings between or among any of the Proposing Persons or between or among any Proposing Person and any other person or entity (including, without limitation, their names) in connection with the proposal of such business by such stockholder, (D) a representation that the stockholder is a holder of record of stock of the Corporation entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to propose such business, (E) a representation whether the Proposing Person intends or is part of a group which intends (1) to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the Corporation's outstanding capital stock required to approve or adopt the proposal and/or (2) otherwise to solicit proxies or votes from stockholders in support of such proposal and (F) any other information relating to such item of business that would be required to be disclosed in a proxy statement or other filing required to be made in connection with solicitations of proxies in support of the business proposed to be brought before the meeting pursuant to Section 14(a) of the Exchange Act; *provided, however*, that the disclosures required by this paragraph (c)(iii) shall not include any disclosures with respect to any broker, dealer, commercial bank, trust company or other nominee who is a Proposing Person solely as a result of being the stockholder directed to prepare and submit the notice required by these bylaws on behalf of a beneficial owner.

(d) For purposes of this Section 2.4, the term "Proposing Person" shall mean (i) the stockholder providing the notice of business proposed to be brought before an annual meeting, (ii) the beneficial owner or beneficial owners, if different, on whose behalf the notice of the business proposed to be brought before the annual meeting is made, (iii) any affiliate or associate (each within the meaning of Rule 12b-2 under the Exchange Act for the purposes of these bylaws) of such stockholder or beneficial owner and (iv) any other person with whom such stockholder or beneficial owner (or any of their respective affiliates or associates) is Acting in Concert (as defined below).

(e) A person shall be deemed to be "Acting in Concert" with another person for purposes of these bylaws if such person knowingly acts (whether or not pursuant to an express agreement, arrangement or understanding) in concert with, or towards a common goal relating to the management, governance or control of the Corporation in parallel with, such other person where (i) each person is conscious of the other person's conduct or intent and this awareness is an element in their decision-making processes and (ii) at least one additional factor suggests that such persons intend to act in concert or in parallel, which such additional factors may include, without limitation, exchanging information (whether publicly or privately), attending meetings, conducting discussions, or making or soliciting invitations to act in concert or in parallel; ***provided***, that a person shall not be deemed to be Acting in Concert with any other person solely as a result of the solicitation or receipt of revocable proxies or consents from such other person in response to a solicitation made pursuant to, and in accordance with, Section 14(a) of the Exchange Act by way of a proxy or consent solicitation statement filed on Schedule 14A. A person Acting in Concert with another person shall be deemed to be Acting in Concert with any third party who is also Acting in Concert with such other person.

(f) A stockholder providing notice of business proposed to be brought before an annual meeting shall further update and supplement such notice, if necessary, so that the information provided or required to be provided in such notice pursuant to this Section 2.4 shall be true and correct as of the record date for determining stockholders entitled to notice of the annual meeting and as of the date that is ten (10) business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to, or mailed and received by, the secretary of the Corporation at the principal executive offices of the Corporation not later than five (5) business days after the record date for determining stockholders entitled to notice of the annual meeting (in the case of the update and supplement required to be made as of the record date), and not later than eight (8) business days prior to the date for the meeting or, if practicable, any adjournment or postponement thereof (and, if not practicable, on the first practicable date prior to the date to which the meeting has been adjourned or postponed) (in the case of the update and supplement required to be made as of ten (10) business days prior to the meeting or any adjournment or postponement thereof).

(g) Notwithstanding anything in these bylaws to the contrary and except as otherwise expressly provided in any applicable rule or regulation promulgated under the Exchange Act, no business shall be conducted at an annual meeting except in accordance with this Section 2.4. The presiding officer of an annual meeting of stockholders shall have the power and duty (a) to determine that any business was not properly brought before the meeting in accordance with this Section 2.4 (including whether the stockholder or beneficial owner, if any, on whose behalf the business proposed to be brought before the annual meeting is made, solicited (or is part of a group which solicited) or did not so solicit, as the case may be, proxies or votes in support of such stockholder's business in compliance with such stockholder's representation as required by clause (c)(iii)(E) of this Section 2.4); and (b) if any proposed business was not proposed in compliance with this Section 2.4 to declare to the meeting that any such business not properly brought before the meeting shall not be transacted.

(h) The foregoing notice requirements of this Section 2.4 shall be deemed satisfied by a stockholder with respect to business other than a nomination if the stockholder has notified the Corporation of his, her or its intention to present a proposal at an annual meeting in compliance with applicable rules and regulations promulgated under the Exchange Act and such stockholder's proposal has been included in a proxy statement that has been prepared by the Corporation to solicit proxies for such annual meeting. Nothing in this Section 2.4 shall be deemed to affect the rights of stockholders to request inclusion of proposals in the Corporation's proxy statement pursuant to Rule 14a-8 under the Exchange Act.

(i) For purposes of these bylaws, "public disclosure" shall mean disclosure in a press release reported by a national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Sections 13, 14 or 15(d) of the Exchange Act.

(j) Notwithstanding the foregoing provisions of this Section 2.4, unless otherwise required by law, if the stockholder (or a qualified representative of the stockholder) does not appear at the annual meeting to present proposed business, such proposed business shall not be transacted, notwithstanding that proxies in respect of such vote may have been received by the Corporation. For purposes of this Section 2.4, except as provided under Rule 14a-8 under the Exchange Act, to be considered a qualified representative of the stockholder, a person must be a duly authorized officer, manager or partner of such stockholder or must be authorized by a writing executed by such stockholder or an electronic transmission delivered by such stockholder to act for such stockholder as proxy at the annual meeting and such person must produce such writing or electronic transmission, or a reliable reproduction of the writing or electronic transmission, at the annual meeting.

(k) Notwithstanding the foregoing provisions of this Section 2.4, a stockholder shall also comply with all applicable requirements of the Exchange Act with respect to the matters set forth in this Section 2.4; provided however, that any references in these bylaws to the Exchange Act are not intended to and shall not limit any requirements applicable to proposals as to any

business to be considered pursuant to this Section 2.4 (including paragraph (a)(iii) hereof), and compliance with paragraph (a)(iii) of this Section 2.4 shall be the exclusive means for a stockholder to submit business (other than, as provided in the first sentence of paragraph (h) of this Section 2.4, business brought properly under and in compliance with Rule 14a-8 of the Exchange Act, as may be amended from time to time).

2.5 ADVANCE NOTICE PROCEDURES FOR NOMINATIONS OF DIRECTORS.

(a) Nominations of any person for election to the Board at an annual meeting or at a special meeting (but, in the case of a special meeting, only if the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting) may be made at such meeting only (i) by or at the direction of the Board or any committee thereof, or (ii) by a stockholder who (A) was a stockholder of record of the Corporation (and, with respect to any beneficial owner, if different, on whose behalf such nomination is proposed to be made, only if such beneficial owner was the beneficial owner of shares of the Corporation) both at the time of giving the notice provided for in this Section 2.5 and at the time of the meeting, (B) is entitled to vote at the meeting and (C) has complied with this Section 2.5 as to such nomination. The foregoing clause (ii) shall be the exclusive means for a stockholder to make any nomination of a person or persons for election to the Board to be considered by the stockholders at an annual meeting or special meeting.

(b) Without qualification, for a stockholder to make any nomination of a person or persons for election to the Board at an annual meeting, the stockholder must (i) provide Timely Notice (as defined in Section 2.4(b) of these bylaws) thereof in writing and in proper form to the secretary of the Corporation and (ii) provide any updates or supplements to such notice at the times and in the forms required by this Section 2.5. Notwithstanding anything in this paragraph to the contrary, in the event that the number of directors to be elected to the Board at an annual meeting is increased effective after the time period for which nominations would otherwise by due under this paragraph (b) and there is no public announcement by the Corporation naming the nominees for the additional directorships at least one hundred (100) days prior to the first anniversary of the preceding year's annual meeting, a stockholder's notice required by paragraph (b) of this Section 2.5 shall also be considered timely, but only with respect to nominees for the additional directorships, if it shall be delivered to the Secretary at the principal executive offices of the Corporation not later than the close of business on the tenth (10th) day following the day on which such public announcement is first made by the Corporation. Without qualification, if the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting, then for a stockholder to make any nomination of a person or persons for election to such position(s) as specified in the notice of the special meeting, the stockholder must (i) provide timely notice thereof in writing and in proper form to the secretary of the Corporation at the principal executive offices of the Corporation and (ii) provide any updates or supplements to such notice at the times and in the forms required by this Section 2.5. To be timely, a stockholder's notice for nominations to be made at a special meeting must be delivered to, or mailed and received at, the principal executive offices of the Corporation not earlier than the close

of business on the one hundred twentieth (120th) day prior to such special meeting and not later than the later of the close of business on the ninetieth (90th) day prior to such special meeting and the close of business on the tenth (10th) day following the day on which public disclosure (as defined in Section 2.4(i) of these bylaws) of the date of such special meeting was first made. In no event shall any adjournment or postponement of an annual meeting or special meeting or the announcement thereof commence a new time period (or extend any time period) for the giving of a stockholder's notice as described above.

(c) To be in proper form for purposes of this Section 2.5, a stockholder's notice to the secretary of the Corporation shall set forth:

(i) As to each Nominating Person (as defined below), the Stockholder Information (as defined in Section 2.4(c)(i) of these bylaws) except that for purposes of this Section 2.5, the term "Nominating Person" shall be substituted for the term "Proposing Person" in all places it appears in Section 2.4(c)(i);

(ii) As to each Nominating Person, any Disclosable Interests (as defined in Section 2.4(c)(ii), except that for purposes of this Section 2.5 the term "Nominating Person" shall be substituted for the term "Proposing Person" in all places it appears in Section 2.4(c)(ii) and the disclosure in clause (L) of Section 2.4(c)(ii) shall be made with respect to the election of directors at the meeting) *provided*, *however*, that Disclosable Interests shall not include any such disclosures with respect to the ordinary course business activities of any broker, dealer, commercial bank, trust company or other nominee who is a Nominating Person solely as a result of being the stockholder directed to prepare and submit the notice required by these bylaws on behalf of a beneficial owner; and;

(iii) As to each person whom a Nominating Person proposes to nominate for election as a director, (A) all information with respect to such proposed nominee that would be required to be set forth in a stockholder's notice pursuant to this Section 2.5 if such proposed nominee were a Nominating Person, (B) all information relating to such proposed nominee that is required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for election of directors in a contested election pursuant to Section 14(a) under the Exchange Act (including, without limitation, such proposed nominee's written consent to being named in the proxy statement as a nominee and to serving as a director if elected), (C) a statement whether the proposed nominee, if elected, intends to tender, promptly following such person's failure to receive the required vote for election as a director at any subsequent meeting at which such person is nominated for re-election, a resignation that will become effective upon the acceptance of such resignation by the Board of Directors, (D) a description of all direct and indirect compensation and other material monetary agreements, arrangements and understandings during the past three (3) years, and any other

material relationships, between or among any Nominating Person, on the one hand, and each proposed nominee, his or her respective affiliates and associates and any other persons with whom such proposed nominee (or any of his or her respective affiliates and associates) is Acting in Concert (as defined in Section 2.4(e) of these bylaws), on the other hand, including, without limitation, all information that would be required to be disclosed pursuant to Item 404 under Regulation S-K if such Nominating Person were the "registrant" for purposes of such rule and the proposed nominee were a director or executive officer of such registrant (the disclosures to be made pursuant to the foregoing clauses (A) through (C) are referred to as "Nominee Information"), (E) a representation that the Nominating Person is a holder of record of stock of the Corporation entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to propose such nomination, (F) a representation whether the Nominating Person intends or is part of a group which intends (1) to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the Corporation's outstanding capital stock required to elect the nominee and/or (2) otherwise to solicit proxies or votes from stockholders in support of such nomination and (G) a completed and signed questionnaire, representation and agreement as provided in Section 2.5(g); and

(iv) The Corporation may require any proposed nominee to furnish such other information (A) as may reasonably be required by the Corporation to determine the eligibility of such proposed nominee to serve as an independent director of the Corporation in accordance with the Corporation's Corporate Governance Guidelines or (B) that could be material to a reasonable stockholder's understanding of the independence or lack of independence of such proposed nominee.

(d) For purposes of this Section 2.5, the term "Nominating Person" shall mean (i) the stockholder providing the notice of the nomination proposed to be made at the meeting, (ii) the beneficial owner or beneficial owners, if different, on whose behalf the notice of the nomination proposed to be made at the meeting is made, (iii) any affiliate or associate of such stockholder or beneficial owner and (iv) any other person with whom such stockholder or such beneficial owner (or any of their respective affiliates or associates) is Acting in Concert.

(e) A stockholder providing notice of any nomination proposed to be made at a meeting shall further update and supplement such notice, if necessary, so that the information provided or required to be provided in such notice pursuant to this Section 2.5 shall be true and correct as of the record date for determining stockholders entitled to notice of the meeting and as of the date that is ten (10) business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to, or mailed and received by, the secretary of the Corporation at the principal executive offices of the Corporation not later than five (5) business days after the record date for determining stockholders entitled to notice of the meeting (in the case of the update and supplement required to be made as of the record date), and

not later than eight (8) business days prior to the date for the meeting or, if practicable, any adjournment or postponement thereof (and, if not practicable, on the first practicable date prior to the date to which the meeting has been adjourned or postponed) (in the case of the update and supplement required to be made as of ten (10) business days prior to the meeting or any adjournment or postponement thereof).

(f) Notwithstanding anything in these bylaws to the contrary, no person shall be eligible for election as a director of the Corporation unless nominated in accordance with this Section 2.5, except as otherwise expressly provided in any applicable rule or regulation promulgated under the Exchange Act. The presiding officer at any meeting of stockholders shall have the power and duty to (a) determine that a nomination was not properly made in accordance with this Section 2.5 (including whether the stockholder or beneficial owner, if any, on whose behalf the nomination was made, solicited or is part of a group which solicited) or did not so solicit, as the case may be, proxies or votes in support of such stockholder's nomination in compliance with such stockholder's representation as required by clause (c)(iii)(E) of this Section 2.5); and (b) if any proposed nomination was not made in compliance with this Section 2.5 to declare such determination to the meeting that the defective nomination shall be disregarded.

(g) To be eligible to be a nominee for election as a director of the Corporation, the proposed nominee must deliver (in accordance with the time periods prescribed for delivery of notice under this Section 2.5) to the secretary of the Corporation at the principal executive offices of the Corporation a written questionnaire with respect to the background and qualification of such proposed nominee (which questionnaire shall be provided by the secretary upon written request) and a written representation and agreement (in form provided by the secretary upon written request) that such proposed nominee (i) is not and will not become a party to (A) any agreement, arrangement or understanding with, and has not given any commitment or assurance to, any person or entity as to how such proposed nominee, if elected as a director of the Corporation, will act or vote on any issue or question (a "Voting Commitment") that has not been disclosed to the Corporation or (B) any Voting Commitment that could limit or interfere with such proposed nominee's ability to comply, if elected as a director of the Corporation, with such proposed nominee's fiduciary duties under applicable law, (ii) is not, and will not become a party to, any agreement, arrangement or understanding with any person or entity other than the Corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with candidacy, service or action as a director that has not been disclosed to the Corporation and (iii) in such proposed nominee's individual capacity and on behalf of the stockholder (and the beneficial owner, if different, on whose behalf the nomination is made) would be in compliance, if elected as a director of the Corporation, and will comply with applicable publicly disclosed corporate governance, conflict of interest, confidentiality and stock ownership and trading policies and guidelines of the Corporation.

(h) In addition to the requirements of this Section 2.5 with respect to any nomination proposed to be made at a meeting, each Nominating Person shall comply with all applicable requirements of the Exchange Act with respect to any such nominations.

(i) Notwithstanding the foregoing provisions of this Section 2.5, unless otherwise required by law, if the stockholder (or a qualified representative of the stockholder) does not appear at the meeting to present the proposed nomination, such proposed nomination shall not be considered, notwithstanding that proxies in respect of such vote may have been received by the Corporation. For purposes of this Section 2.5, to be considered a qualified representative of the stockholder, a person must be a duly authorized officer, manager or partner of such stockholder or must be authorized by a writing executed by such stockholder or an electronic transmission delivered by such stockholder to act for such stockholder as proxy at the meeting of stockholders and such person must produce such writing or electronic transmission, or a reliable reproduction of the writing or electronic transmission, at the meeting.

2.6 NOTICE OF STOCKHOLDERS' MEETINGS.

Unless otherwise provided by law, the certificate of incorporation or these bylaws, the notice of any meeting of stockholders shall be given in accordance with either Section 2.7 or Section 8.1 of these bylaws not less than ten (10) nor more than sixty (60) days before the date of the meeting to each stockholder entitled to vote at such meeting as of the record date for determining the stockholders entitled to notice of the meeting. The notice shall specify the place, if any, date and hour of the meeting, the record date for determining the stockholders entitled to vote at the meeting (if such date is different from the record date for stockholders entitled to notice of the meeting), the means of remote communication, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such meeting, and, in the case of a special meeting, the purpose or purposes for which the meeting is called.

2.7 MANNER OF GIVING NOTICE; AFFIDAVIT OF NOTICE.

Notice of any meeting of stockholders shall be deemed given:

(a) if mailed, when deposited in the United States mail, postage prepaid, directed to the stockholder at such stockholder's address as it appears on the Corporation's records; or

(b) if electronically transmitted, as provided in Section 8.1 of these bylaws.

An affidavit of the secretary or an assistant secretary of the Corporation or of the transfer agent or any other agent of the Corporation that the notice has been given by mail or by a form of electronic transmission, as applicable, shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

2.8 QUORUM.

Unless otherwise provided by law, the certificate of incorporation or these bylaws, the holders of a majority in voting power of the capital stock issued and outstanding and entitled to vote, present in person, or by remote communication, if applicable, or represented by proxy, shall

constitute a quorum for the transaction of business at all meetings of the stockholders. A quorum, once established at a meeting, shall not be broken by the withdrawal of enough votes to leave less than a quorum. If, however, a quorum is not present or represented at any meeting of the stockholders, then either (a) the chairperson of the meeting or (b) a majority in voting power of the stockholders entitled to vote thereon, present in person, or by remote communication, if applicable, or represented by proxy, shall have power to adjourn the meeting from time to time in the manner provided in Section 2.9 of these bylaws until a quorum is present or represented. At such adjourned meeting at which a quorum is present or represented, any business may be transacted that might have been transacted at the meeting as originally noticed.

2.9 ADJOURNED MEETING; NOTICE.

When a meeting is adjourned to another time or place, unless these bylaws otherwise require, notice need not be given of the adjourned meeting if the time, place, if any, thereof, and the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such adjourned meeting are announced at the meeting at which the adjournment is taken. At the adjourned meeting, the Corporation may transact any business which might have been transacted at the original meeting. If the adjournment is for more than thirty (30) days, or if after the adjournment a new record date for determining the stockholders entitled to vote is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the adjourned meeting as of the record date for determining the stockholders entitled to notice of the adjourned meeting.

2.10 CONDUCT OF BUSINESS.

The date and time of the opening and the closing of the polls for each matter upon which the stockholders will vote at a meeting shall be announced at the meeting by the person presiding over the meeting. The Board may adopt by resolution such rules and regulations for the conduct of the meeting of stockholders as it shall deem appropriate. Except to the extent inconsistent with such rules and regulations as adopted by the Board, the person presiding over any meeting of stockholders shall have the right and authority to convene and (for any or no reason) to recess and/or adjourn the meeting, to prescribe such rules, regulations and procedures (which need not be in writing) and to do all such acts as, in the judgment of such presiding person, are appropriate for the proper conduct of the meeting. Such rules, regulations or procedures, whether adopted by the Board or prescribed by the presiding person of the meeting, may include, without limitation, the following: (a) the establishment of an agenda or order of business for the meeting; (b) rules and procedures for maintaining order at the meeting and the safety of those present (including, without limitation, rules and procedures for removal of disruptive persons from the meeting); (c) limitations on attendance at or participation in the meeting to stockholders entitled to vote at the meeting, their duly authorized and constituted proxies or such other persons as the presiding person of the meeting shall determine; (d) restrictions on entry to the meeting after the time fixed for the commencement thereof; and (e) limitations on the time allotted to questions or comments by participants. The presiding person at any meeting of stockholders, in addition to making any other

determinations that may be appropriate to the conduct of the meeting (including, without limitation, determinations with respect to the administration and/or interpretation of any of the rules, regulations or procedures of the meeting, whether adopted by the Board or prescribed by the person presiding over the meeting), shall, if the facts warrant, determine and declare to the meeting that a matter or business was not properly brought before the meeting and if such presiding person should so determine, such presiding person shall so declare to the meeting and any such matter or business not properly brought before the meeting shall not be transacted or considered. Unless and to the extent determined by the Board or the person presiding over the meeting, meetings of stockholders shall not be required to be held in accordance with the rules of parliamentary procedure.

2.11 VOTING.

The stockholders entitled to vote at any meeting of stockholders shall be determined in accordance with the provisions of Section 2.13 of these bylaws, subject to Section 217 (relating to voting rights of fiduciaries, pledgors and joint owners of stock) and Section 218 (relating to voting trusts and other voting agreements) of the DGCL.

Except as may be otherwise provided in the certificate of incorporation or these bylaws, each stockholder shall be entitled to one (1) vote for each share of capital stock held by such stockholder.

At all duly called or convened meetings of stockholders, at which a quorum is present, for the election of directors, a plurality of the votes cast shall be sufficient to elect a director. All other elections and questions presented to the stockholders at a duly called or convened meeting, at which a quorum is present, shall, unless a different or minimum vote is required by the certificate of incorporation, these bylaws, the rules or regulations of any stock exchange applicable to the Corporation, or any law or regulation applicable to the Corporation or its securities, in which case such different or minimum vote shall be the applicable vote on the matter, be decided by the affirmative vote of the holders of a majority in voting power of the votes cast affirmatively or negatively (excluding abstentions) at the meeting by the holders entitled to vote thereon.

2.12 STOCKHOLDER ACTION BY WRITTEN CONSENT WITHOUT A MEETING.

Any action required or permitted to be taken by the stockholders of the Corporation must be effected at a duly called annual or special meeting of stockholders of the Corporation and may not be effected by any consent in writing by such stockholders.

2.13 RECORD DATE FOR STOCKHOLDER NOTICE; VOTING.

In order that the Corporation may determine the stockholders entitled to notice of any meeting of stockholders or any adjournment thereof, the Board may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the

Board, and which record date shall, unless otherwise required by law, not be more than sixty (60) nor less than ten (10) days before the date of such meeting. If the Board so fixes a date, such date shall also be the record date for determining the stockholders entitled to vote at such meeting unless the Board determines, at the time it fixes such record date, that a later date on or before the date of the meeting shall be the date for making such determination. If no record date is fixed by the Board, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; *provided, however*, that the Board may fix a new record date for determination of stockholders entitled to vote at the adjourned meeting, and in such case shall also fix as the record date for stockholders entitled to notice of such adjourned meeting the same or an earlier date as that fixed for determination of stockholders entitled to vote in accordance herewith at the adjourned meeting.

In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board may fix a record date, which shall not be more than sixty (60) days prior to such other action. If no such record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board adopts the resolution relating thereto.

2.14 PROXIES.

Each stockholder entitled to vote at a meeting of stockholders may authorize another person or persons to act for such stockholder by proxy, but no such proxy shall be voted or acted upon after three (3) years from its date, unless the proxy provides for a longer period. The revocability of a proxy that states on its face that it is irrevocable shall be governed by the provisions of Section 212 of the DGCL. A proxy may be in the form of a telegram, cablegram or other means of electronic transmission which sets forth or is submitted with information from which it can be determined that the telegram, cablegram or other means of electronic transmission was authorized by the stockholder.

2.15 LIST OF STOCKHOLDERS ENTITLED TO VOTE.

The Corporation shall prepare, at least ten (10) days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting (*provided, however*, if the record date for determining the stockholders entitled to vote is less than ten (10) days before the date of the meeting, the list shall reflect the stockholders entitled to vote as of the tenth day before the date of the meeting), arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. The Corporation shall not be required to include electronic mail addresses or other electronic contact information on such list.

Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting for a period of at least ten (10) days prior to the meeting: (a) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting, or (b) during ordinary business hours, at the Corporation's principal executive office. In the event that the Corporation determines to make the list available on an electronic network, the Corporation may take reasonable steps to ensure that such information is available only to stockholders of the Corporation. If the meeting is to be held at a place, then the list shall be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present. If the meeting is to be held solely by means of remote communication, then the list shall also be open to the examination of any stockholder during the whole time of the meeting on a reasonably accessible electronic network, and the information required to access such list shall be provided with the notice of the meeting. Except as otherwise provided by law, the stock ledger shall be the only evidence as to the identity of the stockholders entitled to vote in person or by proxy and the number of shares held by each of them, and as to the stockholders entitled to examine the list of stockholders.

2.16 POSTPONEMENT, ADJOURNMENT AND CANCELLATION OF MEETING.

Any previously scheduled annual or special meeting of the stockholders may be postponed or adjourned, and any previously scheduled annual or special meeting of the stockholders may be canceled, by resolution of the Board.

2.17 INSPECTORS OF ELECTION.

Before any meeting of stockholders, the Board shall appoint an inspector or inspectors of election to act at the meeting or its adjournment or postponement and make a written report thereof. The number of inspectors shall be either one (1) or three (3). If any person appointed as inspector fails to appear or fails or refuses to act, then the chairperson of the meeting may, and upon the request of any stockholder or a stockholder's proxy shall, appoint a person to fill that vacancy. Unless otherwise required by law, inspectors may be officers, employees or agents of the Corporation. Such inspectors shall have the duties prescribed by law. Each inspector, before entering upon the discharge of his or her duties, shall take and sign an oath to execute faithfully the duties of inspector with strict impartiality and according to the best of his or her ability. If there are three (3) inspectors of election, the decision, act or certificate of a majority is effective in all respects as the decision, act or certificate of all. Any report or certificate made by the inspectors of election is prima facie evidence of the facts stated therein.

ARTICLE III - DIRECTORS

3.1 POWERS.

Subject to the provisions of the DGCL and any limitations in the certificate of incorporation, the business and affairs of the Corporation shall be managed and all corporate powers shall be exercised by or under the direction of the Board.

3.2 NUMBER OF DIRECTORS.

The authorized number of directors shall be determined from time to time by resolution of the Board, provided the Board shall consist of at least one (1) member. No reduction of the authorized number of directors shall have the effect of removing any director before that director's term of office expires.

3.3 ELECTION, QUALIFICATION AND TERM OF OFFICE OF DIRECTORS.

Except as provided in Section 3.4 of these bylaws, each director, including, without limitation, a director elected to fill a vacancy, shall hold office until the expiration of the term for which elected and until such director's successor is elected and qualified or until such director's earlier death, resignation or removal. Directors need not be stockholders unless so required by the certificate of incorporation or these bylaws. The Corporation may also have, at the discretion of the Board, a chairperson of the Board and a vice chairperson of the Board. The certificate of incorporation or these bylaws may prescribe other qualifications for directors.

3.4 RESIGNATION AND VACANCIES.

Any director may resign at any time upon notice given in writing or by electronic transmission to the chairperson of the Board or the Corporation's chief executive officer, president or secretary. When one or more directors so resigns and the resignation is effective at a future date, a majority of the directors then in office, including those who have so resigned, shall have power to fill such vacancy or vacancies, the vote thereon to take effect when such resignation or resignations shall become effective, and each director so chosen shall hold office as provided in this section in the filling of other vacancies.

Unless otherwise provided in the certificate of incorporation or these bylaws, vacancies and newly created directorships resulting from any increase in the authorized number of directors shall, unless the Board determines by resolution that any such vacancies or newly created directorships shall be filled by stockholders, be filled only by a majority of the directors then in office, although less than a quorum, or by a sole remaining director. Any director elected in accordance with the preceding sentence shall hold office for the remainder of the full term of the director for which the vacancy was created or occurred and until such director's successor shall have been elected and qualified. A vacancy in the Board shall be deemed to exist under these bylaws in the case of the death, removal or resignation of any director.

3.5 PLACE OF MEETINGS; MEETINGS BY TELEPHONE.

The Board may hold meetings, both regular and special, either within or outside the State of Delaware.

Unless otherwise restricted by the certificate of incorporation or these bylaws, members of the Board, or any committee designated by the Board, may participate in a meeting of the Board, or any committee, by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting pursuant to this bylaw shall constitute presence in person at the meeting.

3.6 REGULAR MEETINGS.

Regular meetings of the Board may be held without notice at such time and at such place as shall from time to time be determined by the Board; *provided* that any director who is absent when such determination is made shall be given notice of the determination. A regular meeting of the Board may be held without notice immediately after and at the same place as the annual meeting of stockholders.

3.7 SPECIAL MEETINGS; NOTICE.

Special meetings of the Board for any purpose or purposes may be called at any time by the chairperson of the Board, the chief executive officer, the president, the secretary or a majority of the authorized number of directors.

Notice of the time and place of special meetings shall be:

(a) delivered personally by hand, by courier or by telephone;

(b) sent by United States first-class mail, postage prepaid;

(c) sent by facsimile; or

(d) sent by electronic mail, electronic transmission or other similar means,

directed to each director at that director's address, telephone number, facsimile number or electronic mail or other electronic address, as the case may be, as shown on the Corporation's records.

If the notice is (a) delivered personally by hand, by courier or by telephone, (b) sent by facsimile or (c) sent by electronic mail or electronic transmission, it shall be delivered or sent at least twenty-four (24) hours before the time of the holding of the meeting. If the notice is sent by United States mail, it shall be deposited in the United States mail at least four (4) days before the time of the holding of the meeting. Any oral notice may be communicated to the director. The notice need not specify the place of the meeting (if the meeting is to be held at the Corporation's principal executive office) nor the purpose of the meeting.

3.8 QUORUM.

The greater of (a) a majority of the directors at any time in office and (b) one-third of the number of directors established by the Board pursuant to Section 3.2 of these bylaws shall constitute a quorum of the Board for the transaction of business. The vote of a majority of the directors present at any meeting at which a quorum is present shall be the act of the Board, except as may be otherwise specifically provided by statute, the certificate of incorporation or these bylaws. If a quorum is not present at any meeting of the Board, then the directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum is present.

3.9 BOARD ACTION BY CONSENT WITHOUT A MEETING.

Unless otherwise restricted by the certificate of incorporation or these bylaws, any action required or permitted to be taken at any meeting of the Board, or of any committee thereof, may be taken without a meeting if all members of the Board or committee, as the case may be, consent thereto in writing or by electronic transmission and the writing or writings or electronic transmission or transmissions are filed with the minutes of proceedings of the Board or committee. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

3.10 FEES AND COMPENSATION OF DIRECTORS.

Unless otherwise restricted by the certificate of incorporation or these bylaws, the Board shall have the authority to fix the compensation of directors.

3.11 REMOVAL OF DIRECTORS.

Subject to the rights of the holders of the shares of any series of preferred stock of the Corporation, the Board or any individual director may be removed from office only for cause and only by the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock of the Corporation entitled to vote thereon.

ARTICLE IV - COMMITTEES

4.1 COMMITTEES OF DIRECTORS.

The Board may designate one (1) or more committees, each committee to consist of one (1) or more of the directors of the Corporation. The Board may designate one (1) or more directors as alternate members of any committee, who may replace any absent or disqualified member at

any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the Board or in these bylaws, shall have and may exercise all the powers and authority of the Board in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers that may require it; but no such committee shall have the power or authority to (a) approve or adopt, or recommend to the stockholders, any action or matter (other than the election or removal of directors) expressly required by the DGCL to be submitted to stockholders for approval, or (b) adopt, amend or repeal any bylaw of the Corporation.

4.2 COMMITTEE MINUTES.

Each committee shall keep regular minutes of its meetings and report the same to the Board when required.

4.3 MEETINGS AND ACTION OF COMMITTEES.

Meetings and actions of committees shall be governed by, and held and taken in accordance with, the provisions of:

(a) Section 3.5 of these bylaws (place of meetings and meetings by telephone);

(b) Section 3.6 of these bylaws (regular meetings);

(c) Section 3.7 of these bylaws (special meetings and notice);

(d) Section 3.8 of these bylaws (quorum);

(e) Section 7.12 of these bylaws (waiver of notice); and

(f) Section 3.9 of these bylaws (action without a meeting),

with such changes in the context of those bylaws as are necessary to substitute the committee and its members for the Board and its members. *However*:

(i) the time of regular meetings of committees may be determined either by resolution of the Board or by resolution of the committee;

(ii) special meetings of committees may also be called by resolution of the Board; and

(iii) notice of special meetings of committees shall also be given to all alternate members, who shall have the right to attend all meetings of the committee. The Board may adopt rules for the governance of any committee not inconsistent with the provisions (or any part thereof) of these bylaws.

ARTICLE V - OFFICERS

5.1 OFFICERS.

The officers of the Corporation shall be a president and a secretary. The Corporation may also have, at the discretion of the Board, a chief executive officer, a chief financial officer or treasurer, one (1) or more vice presidents, one (1) or more assistant vice presidents, one (1) or more assistant treasurers, one (1) or more assistant secretaries, and any such other officers as may be appointed in accordance with the provisions of these bylaws. Any number of offices may be held by the same person.

5.2 APPOINTMENT OF OFFICERS.

The Board shall appoint the officers of the Corporation, except such officers as may be appointed in accordance with the provisions of Section 5.3 of these bylaws, subject to the rights, if any, of an officer under any contract of employment.

5.3 SUBORDINATE OFFICERS.

The Board may appoint, or empower the chief executive officer or, in the absence of a chief executive officer, the president, to appoint, such other officers and agents as the business of the Corporation may require. Each of such officers shall hold office for such period, as is provided in these bylaws or as the Board may from time to time determine.

5.4 REMOVAL AND RESIGNATION OF OFFICERS.

Subject to the rights, if any, of an officer under any contract of employment, any officer may be removed, either with or without cause, by the Board at any regular or special meeting of the Board or, except in the case of an officer chosen by the Board, by any officer upon whom such power of removal may be conferred by the Board.

Any officer may resign at any time by giving written notice to the Corporation. Any resignation shall take effect at the date of the receipt of that notice or at any later time specified in that notice. Unless otherwise specified in the notice of resignation, the acceptance of the resignation shall not be necessary to make it effective. Any resignation is without prejudice to the rights, if any, of the Corporation under any contract to which the officer is a party.

5.5 VACANCIES IN OFFICES.

Any vacancy occurring in any office of the Corporation shall be filled by the Board or as provided in Section 5.3 of these bylaws.

5.6 REPRESENTATION OF SHARES OF OTHER ENTITIES.

The chairperson of the Board, the president, any vice president, the treasurer, the secretary or assistant secretary of this Corporation, or any other person authorized by the Board or the president or a vice president, is authorized to vote, represent and exercise on behalf of this Corporation all rights incident to any and all securities of any other entity or entities standing in the name of this Corporation. The authority granted herein may be exercised either by such person directly or by any other person authorized to do so by proxy or power of attorney duly executed by such person having the authority.

5.7 AUTHORITY AND DUTIES OF OFFICERS.

All officers of the Corporation shall respectively have such authority and perform such duties in the management of the business of the Corporation as may be designated from time to time by the Board and, to the extent not so provided, as generally pertain to their respective offices, subject to the control of the Board.

ARTICLE VI - RECORDS AND REPORTS

6.1 MAINTENANCE OF RECORDS.

Subject to applicable law, the Corporation shall, either at its principal executive office or at such place or places as designated by the Board, keep a record of its stockholders listing their names and addresses and the number and class of shares held by each stockholder, a copy of these bylaws as amended to date, accounting books and other records.

ARTICLE VII - GENERAL MATTERS

7.1 EXECUTION OF CORPORATE CONTRACTS AND INSTRUMENTS.

The Board, except as otherwise provided in these bylaws, may authorize any officer or officers, or agent or agents, to enter into any contract or execute any instrument in the name of and on behalf of the Corporation; such authority may be general or confined to specific instances. Unless so authorized or ratified by the Board or within the agency power of an officer, no officer, agent or employee shall have any power or authority to bind the Corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

7.2 STOCK CERTIFICATES; PARTLY PAID SHARES.

The shares of the Corporation shall be represented by certificates provided that the Board may provide by resolution or resolutions that some or all of any or all classes or series of stock shall be uncertificated shares. Certificates for the shares of stock, if any, shall be in such form as is consistent with the certificate of incorporation and applicable law. Every holder of stock represented by a certificate shall be entitled to have a certificate signed by, or in the name of the Corporation by any two authorized officers of the Corporation representing the number of shares registered in certificate form. Any or all of the signatures on the certificate may be a facsimile. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate has ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if he were such officer, transfer agent or registrar at the date of issue.

The Corporation may issue the whole or any part of its shares as partly paid and subject to call for the remainder of the consideration to be paid therefor. Upon the face or back of each stock certificate issued to represent any such partly paid shares, or upon the books and records of the Corporation in the case of uncertificated partly paid shares, the total amount of the consideration to be paid therefor and the amount paid thereon shall be stated. Upon the declaration of any dividend on fully paid shares, the Corporation shall declare a dividend upon partly paid shares of the same class, but only upon the basis of the percentage of the consideration actually paid thereon.

7.3 MULTIPLES CLASSES OR SERIES OF STOCK.

If the Corporation is authorized to issue more than one class of stock or more than one series of any class, then the powers, the designations, the preferences and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face or back of the certificate that the Corporation shall issue to represent such class or series of stock; *provided, however*, that, except as otherwise provided in Section 202 of the DGCL, in lieu of the foregoing requirements, there may be set forth on the face or back of the certificate that the Corporation shall issue to represent such class or series of stock a statement that the Corporation will furnish without charge to each stockholder who so requests the powers, the designations, the preferences and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights. Within a reasonable time after the issuance or transfer of uncertificated stock, the Corporation shall send to the registered owner thereof a written notice containing the information required to be set forth or stated on certificates pursuant to the DGCL or a statement that the Corporation will furnish without charge to each stockholder who so requests the powers, designations, preferences and relative participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights.

7.4 LOST CERTIFICATES.

Except as provided in this Section 7.4, no new certificates for shares shall be issued to replace a previously issued certificate unless the latter is surrendered to the Corporation in accordance with applicable law. The Corporation may issue a new certificate of stock or uncertificated shares in the place of any certificate theretofore issued by it, alleged to have been lost, stolen or destroyed, and the Corporation may require the owner of the lost, stolen or destroyed certificate, or such owner's legal representative, to give the Corporation a bond sufficient to indemnify it against any claim that may be made against it on account of the alleged loss, theft or destruction of any such certificate or the issuance of such new certificate or uncertificated shares.

7.5 CONSTRUCTION; DEFINITIONS.

Unless the context requires otherwise, the general provisions, rules of construction and definitions in the DGCL shall govern the construction of these bylaws. Without limiting the generality of this provision, the singular number includes the plural, the plural number includes the singular, and the term "person" includes both a corporation and a natural person.

7.6 DIVIDENDS.

The Board, subject to any restrictions contained in either (a) the DGCL or (b) the certificate of incorporation, may declare and pay dividends upon the shares of its capital stock. Dividends may be paid in cash, in property or in shares of the Corporation's capital stock.

The Board may set apart out of any of the funds of the Corporation available for dividends a reserve or reserves for any proper purpose and may abolish any such reserve. Such purposes shall include but not be limited to equalizing dividends, repairing or maintaining any property of the Corporation, and meeting contingencies.

7.7 FISCAL YEAR.

The fiscal year of the Corporation shall be fixed by resolution of the Board and may be changed by the Board.

7.8 SEAL.

The Corporation may adopt a corporate seal, which shall be adopted and which may be altered by the Board. The Corporation may use the corporate seal by causing it or a facsimile thereof to be impressed or affixed or in any other manner reproduced.

7.9 TRANSFER OF STOCK.

Shares of the Corporation shall be transferable in the manner prescribed by law and in these bylaws. Shares of stock of the Corporation shall be transferred on the books of the Corporation

only by the holder of record thereof or by such holder's attorney duly authorized in writing, upon surrender to the Corporation of the certificate or certificates representing such shares endorsed by the appropriate person or persons (or by delivery of duly executed instructions with respect to uncertificated shares), with such evidence of the authenticity of such endorsement or execution, transfer, authorization and other matters as the Corporation may reasonably require, and accompanied by all necessary stock transfer stamps. To the fullest extent permitted by law, no transfer of stock shall be valid as against the Corporation for any purpose until it shall have been entered in the stock records of the Corporation by an entry showing the names of the persons from and to whom it was transferred.

7.10 STOCK TRANSFER AGREEMENTS.

The Corporation shall have power to enter into and perform any agreement with any number of stockholders of any one or more classes of stock of the Corporation to restrict the transfer of shares of stock of the Corporation of any one or more classes owned by such stockholders in any manner not prohibited by the DGCL.

7.11 REGISTERED STOCKHOLDERS.

The Corporation, to the fullest extent permitted by law,:

(a) shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends and to vote as such owner;

(b) shall be entitled to hold liable for calls and assessments the person registered on its books as the owner of shares; and

(c) shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of another person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.

7.12 WAIVER OF NOTICE.

Whenever notice is required to be given under any provision of the DGCL, the certificate of incorporation or these bylaws, a written waiver, signed by the person entitled to notice, or a waiver by electronic transmission by the person entitled to notice, whether before or after the time of the event for which notice is to be given, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders need be specified in any written waiver of notice or any waiver by electronic transmission unless so required by the certificate of incorporation or these bylaws.

ARTICLE VIII - NOTICE BY ELECTRONIC TRANSMISSION

8.1 NOTICE BY ELECTRONIC TRANSMISSION.

Without limiting the manner by which notice otherwise may be given effectively to stockholders pursuant to the DGCL, the certificate of incorporation or these bylaws, any notice to stockholders given by the Corporation under any provision of the DGCL, the certificate of incorporation or these bylaws shall be effective if given by a form of electronic transmission consented to by the stockholder to whom the notice is given. Any such consent shall be revocable by the stockholder by written notice to the Corporation. Any such consent shall be deemed revoked if:

(a) the Corporation is unable to deliver by electronic transmission two (2) consecutive notices given by the Corporation in accordance with such consent; and

(b) such inability becomes known to the secretary or an assistant secretary of the Corporation or to the transfer agent, or other person responsible for the giving of notice.

However, the inadvertent failure to treat such inability as a revocation shall not invalidate any meeting or other action.

Any notice given pursuant to the preceding paragraph shall be deemed given:

(a) if by facsimile telecommunication, when directed to a number at which the stockholder has consented to receive notice;

(b) if by electronic mail, when directed to an electronic mail address at which the stockholder has consented to receive notice;

(c) if by a posting on an electronic network together with separate notice to the stockholder of such specific posting, upon the later of (i) such posting and (ii) the giving of such separate notice; and

(d) if by any other form of electronic transmission, when directed to the stockholder.

An affidavit of the secretary or an assistant secretary of the Corporation or of the transfer agent or other agent of the Corporation that the notice has been given by a form of electronic transmission shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

8.2 DEFINITION OF ELECTRONIC TRANSMISSION.

For the purposes of these bylaws, an “electronic transmission” means any form of communication, not directly involving the physical transmission of paper, that creates a record that may be retained, retrieved and reviewed by a recipient thereof, and that may be directly reproduced in paper form by such a recipient through an automated process.

ARTICLE IX - INDEMNIFICATION AND ADVANCEMENT

9.1 ACTIONS, SUITS AND PROCEEDINGS OTHER THAN BY OR IN THE RIGHT OF THE CORPORATION.

The Corporation shall indemnify each person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the Corporation) by reason of the fact that he or she is or was, or has agreed to become, a director or officer of the Corporation, or, while a director or officer of the Corporation, is or was serving, or has agreed to serve, at the request of the Corporation, as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (including, without limitation, any employee benefit plan) (all such persons being referred to hereafter as an "Indemnitee"), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including, without limitation, attorneys' fees), liabilities, losses, judgments, fines (including, without limitation, excise taxes and penalties arising under the Employee Retirement Income Security Act of 1974), and amounts paid in settlement actually and reasonably incurred by or on behalf of Indemnitee in connection with such action, suit or proceeding and any appeal therefrom, if Indemnitee acted in good faith and in a manner which Indemnitee reasonably believed to be in, or not opposed to, the best interests of the Corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction or upon a plea of nolo contendere or its equivalent, shall not, of itself, create a presumption that Indemnitee did not act in good faith and in a manner which Indemnitee reasonably believed to be in, or not opposed to, the best interests of the Corporation, and, with respect to any criminal action or proceeding, had reasonable cause to believe that his or her conduct was unlawful.

9.2 ACTIONS OR SUITS BY OR IN THE RIGHT OF THE CORPORATION.

The Corporation shall indemnify any Indemnitee who was or is a party to or threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the Corporation to procure a judgment in its favor by reason of the fact that Indemnitee is or was, or has agreed to become, a director or officer of the Corporation, or, while a director or officer of the Corporation, is or was serving, or has agreed to serve, at the request of the Corporation, as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (including, without limitation, any employee benefit plan), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including, without limitation, attorneys' fees) actually and reasonably

incurred by or on behalf of Indemnitee in connection with such action, suit or proceeding and any appeal therefrom, if Indemnitee acted in good faith and in a manner which Indemnitee reasonably believed to be in, or not opposed to, the best interests of the Corporation, except that no indemnification shall be made under this Section 9.2 in respect of any claim, issue or matter as to which Indemnitee shall have been adjudged to be liable to the Corporation, unless, and only to the extent, that the Court of Chancery of Delaware or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of such liability but in view of all the circumstances of the case, Indemnitee is fairly and reasonably entitled to indemnity for such expenses (including, without limitation, attorneys' fees) which the Court of Chancery of Delaware or such other court shall deem proper.

9.3 INDEMNIFICATION FOR EXPENSES OF SUCCESSFUL PARTY.

Notwithstanding any other provisions of this Article IX, to the extent that an Indemnitee has been successful, on the merits or otherwise, in defense of any action, suit or proceeding referred to in Sections 9.1 and 9.2 of these bylaws, or in defense of any claim, issue or matter therein, or on appeal from any such action, suit or proceeding, Indemnitee shall be indemnified to the fullest extent permitted by law against all expenses (including, without limitation, attorneys' fees) actually and reasonably incurred by or on behalf of Indemnitee in connection therewith.

9.4 NOTIFICATION AND DEFENSE OF CLAIM.

As a condition precedent to an Indemnitee's right to be indemnified, such Indemnitee must notify the Corporation in writing as soon as practicable of any action, suit, proceeding or investigation involving such Indemnitee for which indemnity will or could be sought. With respect to any action, suit, proceeding or investigation of which the Corporation is so notified, the Corporation will be entitled to participate therein at its own expense and/or to assume the defense thereof at its own expense, with legal counsel reasonably acceptable to Indemnitee. After notice from the Corporation to Indemnitee of its election so to assume such defense, the Corporation shall not be liable to Indemnitee for any legal or other expenses subsequently incurred by Indemnitee in connection with such action, suit, proceeding or investigation, other than as provided below in this Section 9.4. Indemnitee shall have the right to employ his or her own counsel in connection with such action, suit, proceeding or investigation, but the fees and expenses of such counsel incurred after notice from the Corporation of its assumption of the defense thereof shall be at the expense of Indemnitee unless (a) the employment of counsel by Indemnitee has been authorized by the Corporation, (b) counsel to Indemnitee shall have reasonably concluded that there may be a conflict of interest or position on any significant issue between the Corporation and Indemnitee in the conduct of the defense of such action, suit, proceeding or investigation or (c) the Corporation shall not in fact have employed counsel to assume the defense of such action, suit, proceeding or investigation, in each of which cases the fees and expenses of counsel for Indemnitee shall be at the expense of the Corporation, except as otherwise expressly provided by this Article IX. The Corporation shall not be entitled, without the consent of Indemnitee, to assume the defense of any claim brought by or in the right of the Corporation or as to which counsel for Indemnitee shall

have reasonably made the conclusion provided for in clause (b) above. The Corporation shall not be required to indemnify Indemnitee under this Article IX for any amounts paid in settlement of any action, suit, proceeding or investigation effected without its written consent. The Corporation shall not settle any action, suit, proceeding or investigation in any manner which would impose any penalty or limitation on Indemnitee without Indemnitee's written consent. Neither the Corporation nor Indemnitee will unreasonably withhold or delay its consent to any proposed settlement.

9.5 ADVANCE OF EXPENSES.

Subject to the provisions of Sections 9.4 and 9.6 of these bylaws, in the event of any threatened or pending action, suit, proceeding or investigation of which the Corporation receives notice under this Article IX, any expenses (including, without limitation, attorneys' fees) incurred by or on behalf of Indemnitee in defending an action, suit, proceeding or investigation or any appeal therefrom shall be paid by the Corporation in advance of the final disposition of such matter to the fullest extent permitted by law; *provided, however*, that, to the extent required by law, the payment of such expenses incurred by or on behalf of Indemnitee in advance of the final disposition of such matter shall be made only upon receipt of an undertaking by or on behalf of Indemnitee to repay all amounts so advanced in the event that it shall ultimately be determined by final judicial decision from which there is no further right to appeal that Indemnitee is not entitled to be indemnified by the Corporation as authorized in this Article IX or otherwise; and *provided further* that no such advancement of expenses shall be made under this Article IX if it is determined (in the manner described in Section 9.6 of these bylaws) that (a) Indemnitee did not act in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interests of the Corporation, or (b) with respect to any criminal action or proceeding, Indemnitee had reasonable cause to believe his or her conduct was unlawful. Such undertaking shall be accepted without reference to the financial ability of Indemnitee to make such repayment.

9.6 PROCEDURE FOR INDEMNIFICATION AND ADVANCEMENT OF EXPENSES.

In order to obtain indemnification or advancement of expenses pursuant to Section 9.1, 9.2, 9.3 or 9.5 of these bylaws, an Indemnitee shall submit to the Corporation a written request. Any such advancement of expenses shall be made promptly, and in any event within 60 days after receipt by the Corporation of the written request of Indemnitee, unless (a) the Corporation has assumed the defense pursuant to Section 9.4 of these bylaws (and none of the circumstances described in Section 9.4 of these bylaws that would nonetheless entitle the Indemnitee to indemnification for the fees and expenses of separate counsel have occurred) or (b) the Corporation determines within such 60-day period that Indemnitee did not meet the applicable standard of conduct set forth in Section 9.1, 9.2 or 9.5 of these bylaws, as the case may be. Any such indemnification, unless ordered by a court, shall be made with respect to requests under Section 9.1 or 9.2 of these bylaws only as authorized in the specific case upon a determination by the Corporation that the indemnification of Indemnitee is proper because Indemnitee has met the

applicable standard of conduct set forth in Section 9.1 or 9.2 of these bylaws, as the case may be. Such determination shall be made in each instance (a) by a majority vote of the directors of the Corporation consisting of persons who are not at that time parties to the action, suit or proceeding in question ("disinterested directors"), whether or not a quorum, (b) by a committee of disinterested directors designated by majority vote of disinterested directors, whether or not a quorum, (c) if there are no disinterested directors, or if the disinterested directors so direct, by independent legal counsel (who may, to the extent permitted by law, be regular legal counsel to the Corporation) in a written opinion or (d) by the stockholders of the Corporation.

9.7 REMEDIES.

To the fullest extent permitted by law, the right to indemnification or advancement of expenses as granted by this Article IX shall be enforceable by Indemnitee in any court of competent jurisdiction. Neither the failure of the Corporation to have made a determination prior to the commencement of such action that indemnification is proper in the circumstances because Indemnitee has met the applicable standard of conduct, nor an actual determination by the Corporation pursuant to Section 9.6 of these bylaws that Indemnitee has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that Indemnitee has not met the applicable standard of conduct. In any suit brought by Indemnitee to enforce a right to indemnification or advancement, or brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the Corporation shall have the burden of proving that Indemnitee is not entitled to be indemnified, or to such advancement of expenses, under this Article IX. Indemnitee's expenses (including, without limitation, attorneys' fees) reasonably incurred in connection with successfully establishing Indemnitee's right to indemnification or advancement, in whole or in part, in any such proceeding shall also be indemnified by the Corporation to the fullest extent permitted by law. Notwithstanding the foregoing, in any suit brought by Indemnitee to enforce a right to indemnification hereunder it shall be a defense that the Indemnitee has not met any applicable standard for indemnification set forth in the DGCL.

9.8 LIMITATIONS.

Notwithstanding anything to the contrary in this Article IX, except as set forth in Section 9.7 of these bylaws, the Corporation shall not indemnify an Indemnitee pursuant to this Article IX in connection with a proceeding (or part thereof) initiated by such Indemnitee unless the initiation thereof was approved by the Board. Notwithstanding anything to the contrary in this Article IX, the Corporation shall not indemnify (or advance expenses to) an Indemnitee to the extent such Indemnitee is reimbursed (or advanced expenses) from the proceeds of insurance, and in the event the Corporation makes any indemnification (or advancement) payments to an Indemnitee and such Indemnitee is subsequently reimbursed from the proceeds of insurance, such Indemnitee shall promptly refund indemnification (or advancement) payments to the Corporation to the extent of such insurance reimbursement.

9.9 SUBSEQUENT AMENDMENT.

No amendment, termination or repeal of this Article IX or of the relevant provisions of the DGCL or any other applicable laws shall adversely affect or diminish in any way the rights of any Indemnitee to indemnification or advancement of expenses under the provisions hereof with respect to any action, suit, proceeding or investigation arising out of or relating to any actions, transactions or facts occurring prior to the final adoption of such amendment, termination or repeal.

9.10 OTHER RIGHTS.

The indemnification and advancement of expenses provided by this Article IX shall not be deemed exclusive of any other rights to which an Indemnitee seeking indemnification or advancement of expenses may be entitled under any law (common or statutory), agreement or vote of stockholders or disinterested directors or otherwise, both as to action in Indemnitee's official capacity and as to action in any other capacity while holding office for the Corporation, and shall continue as to an Indemnitee who has ceased to be a director or officer, and shall inure to the benefit of the estate, heirs, executors and administrators of Indemnitee. Nothing contained in this Article IX shall be deemed to prohibit, and the Corporation is specifically authorized to enter into, agreements with officers and directors providing indemnification and advancement rights and procedures different from those set forth in this Article IX. In addition, the Corporation may, to the extent authorized from time to time by the Board, grant indemnification and advancement rights to other employees or agents of the Corporation or other persons serving the Corporation and such rights may be equivalent to, or greater or less than, those set forth in this Article IX.

9.11 PARTIAL INDEMNIFICATION.

If an Indemnitee is entitled under any provision of this Article IX to indemnification by the Corporation for some or a portion of the expenses (including, without limitation, attorneys' fees), liabilities, losses, judgments, fines (including, without limitation, excise taxes and penalties arising under the Employee Retirement Income Security Act of 1974, as amended) or amounts paid in settlement actually and reasonably incurred by or on behalf of Indemnitee in connection with any action, suit, proceeding or investigation and any appeal therefrom but not, however, for the total amount thereof, the Corporation shall nevertheless indemnify Indemnitee for the portion of such expenses (including, without limitation, attorneys' fees), liabilities, losses, judgments, fines (including, without limitation, excise taxes and penalties arising under the Employee Retirement Income Security Act of 1974, as amended) or amounts paid in settlement to which Indemnitee is entitled.

9.12 INSURANCE.

The Corporation may purchase and maintain insurance, at its expense, to protect itself and any director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise (including, without limitation, any employee benefit plan) against any expense, liability or loss incurred by him or her in any such capacity, or arising out of his or her status as such, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the DGCL.

9.13 SAVINGS CLAUSE.

If this Article IX or any portion hereof shall be invalidated on any ground by any court of competent jurisdiction, then the Corporation shall nevertheless indemnify each Indemnitee as to any expenses (including, without limitation, attorneys' fees), liabilities, losses, judgments, fines (including, without limitation, excise taxes and penalties arising under the Employee Retirement Income Security Act of 1974, as amended) and amounts paid in settlement in connection with any action, suit, proceeding or investigation, whether civil, criminal or administrative, including, without limitation, an action by or in the right of the Corporation, to the fullest extent permitted by any applicable portion of this Article IX that shall not have been invalidated and to the fullest extent permitted by applicable law.

9.14 DEFINITIONS.

Terms used in this Article IX and defined in Section 145(h) and Section 145(i) of the DGCL shall have the respective meanings assigned to such terms in such Section 145(h) and Section 145(i).

ARTICLE X - AMENDMENTS.

Subject to the limitations set forth in Section 9.9 of these bylaws or the provisions of the certificate of incorporation, the Board is expressly empowered to adopt, amend or repeal the bylaws of the Corporation. The stockholders also shall have power to adopt, amend or repeal the bylaws of the Corporation; *provided*, *however*, that, in addition to any vote of the holders of any class or series of stock of the Corporation required by law or by the certificate of incorporation, such action by stockholders shall require the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock of the Corporation entitled to vote thereon.

Exhibit 4.1

AYALA PHARMACEUTICALS, INC.

AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

THIS AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT (this "Agreement") is made as of December 19, 2018, by and among Ayala Pharmaceuticals, Inc., a Delaware corporation (the "Company"), and each investor listed on Schedule A hereto, each of which is referred to in this Agreement as an "Investor, and each of the stockholders listed on Schedule B hereto, each of whom is referred to herein as a "Key Holder", and any Additional Purchaser (as defined in the Purchase Agreement) that becomes a party to this Agreement in accordance with Section 6.9 hereof.

RECITALS:

WHEREAS, certain of the Investors (the "Existing Investors") hold shares of the Company's Series A Preferred Stock and/or shares of Common Stock issued upon conversion thereof and possess registration rights, information rights, rights of first offer, and other rights pursuant to that certain Investors' Rights Agreement dated as of December 13, 2017, as amended on March 22, 2018, by and among the Company, the Key Holders and such Existing Investors (the "Prior Agreement");

WHEREAS, the Existing Investors are holders of at least a majority of the Registrable Securities of the Company (as defined in the Prior Agreement), and desire to amend and restate the Prior Agreement in its entirety and to accept the rights and obligations created pursuant to this Agreement in lieu of the rights and obligations granted to or imposed on them under the Prior Agreement; and

WHEREAS, the Company and certain of the Investors are parties to that certain Series B Preferred Stock Purchase Agreement of even date herewith (the "Purchase Agreement"), under which certain of the Company's and such Investors' obligations are conditioned upon the execution and delivery of this Agreement by such Investors, Existing Investors holding at least a majority of the Registrable Securities, and the Company; and

WHEREAS, in order to induce the Company to enter into the Purchase Agreement and to induce those certain Investors to invest funds in the Company pursuant to the Purchase Agreement, the Investors and the Company hereby agree that this Agreement shall govern the rights of the Investors to cause the Company to register shares of Common Stock issuable to the Investors, to receive certain information from the Company, and to participate in future equity offerings by the Company, and shall govern certain other matters as set forth in this Agreement;

NOW, THEREFORE, the parties hereby agree to amend and restate the Prior Agreement to read in its entirety as follows:

1. Definitions. For purposes of this Agreement:

1.1 "Affiliate" means, with respect to any specified Investor, any other Person who or which, directly or indirectly, controls, is controlled by or is under common control with

such Investor, including without limitation any general partner, managing member, officer or director of such Investor, and any venture capital fund now or hereafter existing that is controlled by one or more general partners or managing members of, or shares the same management company with, such Investor. For the purposes of this definition, the term "control" (including, with correlative meanings, the terms "controlled by" and "under common control with") as used with respect to a Person, shall mean either of the following: (i) in the case of a corporate entity, ownership of voting securities entitled to cast at least fifty percent (50%) of the votes in the election of directors or the equivalent body of such a corporate entity, or (ii) in the case of a non-corporate entity, direct or indirect ownership of at least fifty percent (50%) of the equity interests with the power to direct the management and policies of such entity.

1.2 "Board of Directors" means the Company's Board of Directors.

1.3 "Certificate of Incorporation" means the Company's Amended and Restated Certificate of Incorporation, as the same may be amended, restated or otherwise modified from time to time.

1.4 "Common Stock" means shares of the Company's common stock, par value $0.01 per share.

1.5 "Competitor" means a Person engaged, directly or indirectly (including through any partnership, limited liability company, corporation, joint venture or similar arrangement (whether now existing or formed hereafter)), in the Company's business (as currently conducted or as may be conducted in the future), but shall not include any financial investment firm or collective investment vehicle that, together with its Affiliates, holds less than twenty percent (20)% of the outstanding equity of any Competitor and does not, nor do any of its Affiliates, have a right to designate any members of the Board of Directors of any Competitor.

1.6 "Damages" means any loss, damage, claim or liability (joint or several) to which a party hereto may become subject under the Securities Act, the Exchange Act, or other federal or state law, insofar as such loss, damage, claim or liability (or any action in respect thereof) arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in any registration statement of the Company, including any preliminary prospectus or final prospectus contained therein or any amendments or supplements thereto; (ii) an omission or alleged omission to state therein a material fact required to be stated therein, or necessary to make the statements therein not misleading; or (iii) any violation or alleged violation by the indemnifying party (or any of its agents or Affiliates) of the Securities Act, the Exchange Act, any state securities law, or any rule or regulation promulgated under the Securities Act, the Exchange Act, or any state securities law.

1.7 "Deemed Liquidation Event" shall have the meaning given to such term in the Certificate of Incorporation.

1.8 "Derivative Securities" means any securities or rights convertible into, or exercisable or exchangeable for (in each case, directly or indirectly), Common Stock, including options and warrants.

1.9 "Exchange Act" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

1.10 "Excluded Registration" means (i) a registration relating to the sale of securities to employees of the Company or a subsidiary pursuant to a stock option, stock purchase, or similar plan; (ii) a registration relating to an SEC Rule 145 transaction; (iii) a registration on any form that does not include substantially the same information as would be required to be included in a registration statement covering the sale of the Registrable Securities; or (iv) a registration in which the only Common Stock being registered is Common Stock issuable upon conversion of debt securities that are also being registered.

1.11 "FOIA Party." means a Person that, in the reasonable determination of the Board of Directors, may be subject to, and thereby required to disclose non-public information furnished by or relating to the Company under, the Freedom of Information Act, 5 U.S.C. 552 ("FOIA"), any state public records access law, any state or other jurisdiction's laws similar in intent or effect to FOIA, or any other similar statutory or regulatory requirement.

1.12 "Form S-1" means such form under the Securities Act as in effect on the date hereof or any successor registration form under the Securities Act subsequently adopted by the SEC.

1.13 "Form S-3" means such form under the Securities Act as in effect on the date hereof or any registration form under the Securities Act subsequently adopted by the SEC that permits incorporation of substantial information by reference to other documents filed by the Company with the SEC.

1.14 "GAAP" means generally accepted accounting principles in the United States.

1.15 "Holder" means any holder of Registrable Securities who is a party to this Agreement.

1.16 "Immediate Family Member" means a child, stepchild, grandchild, parent, stepparent, grandparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law, including adoptive relationships, of a natural person referred to herein.

1.17 "Initiating Holders" means, collectively, Holders who properly initiate a registration request under this Agreement.

1.18 "IPO" means the Company's first underwritten public offering of its Common Stock under the Securities Act.

1.19 "Key Holder Registrable Securities" means (i) the shares of Common Stock held by the Key Holders, and (ii) any Common Stock issued as (or issuable upon the conversion or exercise of any warrant, right, or other security that is issued as) a dividend or other distribution with respect to, or in exchange for or in replacement of such shares.

1.20 "Major Investor" means any Investor that, individually or together with such Investor's Affiliates, holds at least 5% of the voting power represented by the then issued and outstanding shares of the Company; provided, however, that, for purpose of Section 4 of this Agreement ('Rights to Future Stock Issuances'), any Investor shall be deemed a Major Investor regardless of the extent of voting power it holds, but neither BMS nor any Affiliate thereof shall be deemed a Major Investor for purpose of such Section 4.

1.21 "New Securities" means, collectively, equity securities of the Company, whether or not currently authorized, as well as rights, options, or warrants to purchase such equity securities, or securities of any type whatsoever that are, or may become, convertible or exchangeable into or exercisable for such equity securities, other than Exempted Securities (as such term is defined in the Certificate of Incorporation).

1.22 "Novartis" means Novartis Institutes for BioMedical Research, Inc.

1.23 "Person" means any individual, corporation, partnership, trust, limited liability company, association or other entity.

1.24 "Preferred Stock" means the Series A Preferred Stock and the Series B Preferred Stock.

1.25 "Registrable Securities" means (i) the Common Stock issuable or issued upon conversion of the Preferred Stock; (ii) any Common Stock, or any Common Stock issued or issuable (directly or indirectly) upon conversion and/or exercise of any other securities of the Company, held by the Investors or acquired by the Investors after the date hereof; (iii) the Key Holder Registrable Securities, provided, however, that such Key Holder Registrable Securities shall not be deemed Registrable Securities, and the Key Holders shall not be deemed Holders for the purposes of Sections 2.1, 2.10, 3.1, 3.2, 4.1 and 6.6; and (iv) any Common Stock issued as (or issuable upon the conversion or exercise of any warrant, right, or other security that is issued as) a dividend or other distribution with respect to, or in exchange for or in replacement of, the shares referenced in clauses (i) and (ii) above; excluding in all cases, however, any Registrable Securities sold by a Person in a transaction in which the applicable rights under this Agreement are not assigned pursuant to Section 6.1, and excluding for purposes of Section 2 any shares for which registration rights have terminated pursuant to Section 2 .13 of this Agreement.

1.26 "Registrable Securities then outstanding" means the number of shares at a point in time determined by adding the number of shares of outstanding Common Stock that are Registrable Securities at such time and the number of shares of Common Stock issuable (directly or indirectly) at such time pursuant to then exercisable and/or convertible securities that are Registrable Securities.

1.27 "Required Holders" means holders of at least a majority of the Registrable Securities then outstanding.

1.28 "Restricted Securities" means the securities of the Company required to be notated with or bear the legend set forth in Section 2.12(b) hereof.

1.29 "SEC" means the Securities and Exchange Commission.

1.30 "SEC Rule 144" means Rule 144 promulgated by the SEC under the Securities Act, or any successor provisions.

1.31 "SEC Rule 145" means Rule 145 promulgated by the SEC under the Securities Act, or any successor provisions.

1.32 "Securities Act" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

1.33 "Selling Expenses" means all underwriting discounts, selling commissions, and stock transfer taxes applicable to the sale of Registrable Securities, and fees and disbursements of counsel for any Holder, except for the fees and disbursements of the Selling Holder Counsel borne and paid by the Company as provided in Section 2.6.

1.34 "Selling Holder Counsel" shall have the meaning assigned to it in Section 2.6.

1.35 "Series A Preferred Stock" means shares of the Company's Series A Preferred Stock, par value $0.01 per share.

1.36 "Series B Preferred Stock" means shares of the Company's Series B Preferred Stock, par value $0.01 per share.

1.37 "Stockholders Agreement" means the Amended and Restated Stockholders Agreement dated as of the date hereof, by and among the Company, the Investors, and Key Holders (as defined therein), as the same may be amended, restated or otherwise modified from time to time.

1.38 "BMS" means Bristol-Myers Squibb Company.

1.39 "BMS License Agreement" means that certain License Agreement between the Company and BMS dated as of November 29, 2017, as may be amended from time to time.

2. Registration Rights. The Company covenants and agrees as follows:

2.1 Demand Registration.

(a) Form S-1 Demand. If, at any time after six (6) months after the effective date of the registration statement for the IPO, the Company receives a request from Holders of at least thirty percent (30%) of the Registrable Securities then outstanding that the Company file a Form S-1 registration statement with respect to at least thirty percent (30%) of the Registrable Securities then outstanding, having the anticipated aggregate offering price, net of Selling Expenses, of at least $10.0 million, then the Company shall (x) within ten (10) days after the date such request is given, give notice thereof (the "Demand Notice") to all Holders other than the Initiating Holders; and (y) as soon as practicable, and in any event within sixty (60) days after the date such request is given by the Initiating Holders, file a Form S-1 registration statement under the Securities Act covering all Registrable Securities that the Initiating Holders requested to be registered and any additional Registrable Securities requested to be included in such registration by any other Holders, as specified by notice given by each such Holder to the Company within twenty (20) days after the date the Demand Notice is given, and in each case, subject to the limitations of Section 2.1(c) and Section 2.3.

(b) Form S-3 Demand. If at any time when it is eligible to use a Form S-3 registration statement, the Company receives a request from Holders of at least twenty percent (20%) of the Registrable Securities then outstanding that the Company file a Form S-3 registration statement with respect to outstanding Registrable Securities of such Holders having an anticipated aggregate offering amount, net of Selling Expenses, of at least $3.0 million, then the Company shall (i) within ten (10) days after the date such request is given, give a Demand Notice to all Holders other than the Initiating Holders; and (ii) as soon as practicable, and in any event within forty-five (45) days after the date such request is given by the Initiating Holders, file a Form S-3 registration statement under the Securities Act covering all Registrable Securities requested to be included in such registration by any other Holders, as specified by notice given by each such Holder to the Company within twenty (20) days of the date the Demand Notice is given, and in each case, subject to the limitations of Section 2.1(c) and Section 2.3.

(c) Notwithstanding the foregoing obligations, if the Company furnishes to Holders requesting a registration pursuant to this Section 2.1 a certificate signed by the Company's chief executive officer or other most senior executive officer then in office stating that in the good faith judgment of the Board of Directors it would be materially detrimental to the Company and its stockholders for such registration statement to either become effective or remain effective for as long as such registration statement otherwise would be required to remain effective, because such action would (i) materially interfere with a significant acquisition, corporate reorganization, or other similar transaction involving the Company; (ii) require premature disclosure of material information that the Company has a bona fide business purpose for

preserving as confidential; or (iii) render the Company unable to comply with requirements under the Securities Act or Exchange Act, then the Company shall have the right to defer taking action with respect to such filing, and any time periods with respect to filing or effectiveness thereof shall be tolled correspondingly, for a period of not more than one hundred twenty (120) days after the request of the Initiating Holders is given; provided, however, that the Company may not invoke this right more than once in any twelve (12) month period; and provided further that the Company shall not register any securities for its own account or that of any other stockholder during such one hundred twenty (120) day period other than an Excluded Registration.

(d) The Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to a request made under Section 2.1(a) (i) if it delivers notice to the Holders within thirty (30) days after such request of its reasonable intent to file a registration statement for a public offering within ninety (90) days and thereafter uses commercially reasonable efforts to cause such registration statement to become effective; (ii) during the period that is one hundred eighty (180) days after commencing a Company-initiated registration; (iii) after the Company has effected two (2) registrations pursuant to Section 2.1(a); or (iv) if the Initiating Holders propose to dispose of shares of Registrable Securities that may be immediately registered on Form S-3 pursuant to a request made pursuant to Section 2.1(b). The Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to Section 2.1(b) (i) during the period that is thirty (30) days before the Company's good faith estimate of the date of filing of, and ending on a date that is ninety (90) days after the effective date of, a Company-initiated registration, provided that the Company is actively employing in good faith commercially reasonable efforts to cause such registration statement to become effective; or (ii) if the Company has effected two registrations pursuant to Section 2.1(b) within the twelve (12) month period immediately preceding the date of such request. A registration shall not be counted as "effected" for purposes of this Section 2.1(d) until such time as the applicable registration statement has been declared effective by the SEC, unless the Initiating Holders withdraw their request for such registration elect not to pay the registration expenses therefor, and forfeit their right to one demand registration statement pursuant to Section 2.6, in which case such withdrawn registration statement shall be counted as "effected" for purposes of this Section 2.1(d).

2.2 Company Registration. If the Company proposes to register (including, for this purpose, a registration effected by the Company for stockholders other than the Holders) any of its securities under the Securities Act in connection with the public offering of such securities solely for cash (other than in an Excluded Registration), the Company shall, at such time, promptly give each Holder notice of such registration. Upon the request of each Holder given within twenty (20) days after such notice is given by the Company, the Company shall, subject to the provisions of Section 2.3, cause to be registered all of the Registrable Securities that each such Holder has requested to be included in such registration. The Company shall have the right to terminate or withdraw any registration initiated by it under this Section 2.2 before the effective date of such registration, whether or not any Holder has elected to include Registrable Securities in such registration. The expenses (other than Selling Expenses) of such withdrawn registration shall be borne by the Company in accordance with Section 2.6.

2.3 Underwriting Requirements

(a) If, pursuant to Section 2.1, the Initiating Holders intend to distribute the Registrable Securities covered by their request by means of an underwriting, they shall so advise the Company as a part of their request made pursuant to Section 2.1, and the Company shall include such information in the Demand Notice. The underwriter(s) will be selected by the Company and shall be reasonably acceptable to a majority-in-interest of the Initiating Holders, subject only to the reasonable approval of the Company. In such event, the right of any Holder to include such Holder's Registrable Securities in such registration shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall (together with the Company as provided in Section 2.4(e)) enter into an underwriting agreement in customary form with the underwriter(s) selected for such underwriting. Notwithstanding any other provision of this Section 2.3, if the underwriter(s) advise(s) the Initiating Holders in writing that marketing factors require a limitation on the number of shares to be underwritten, then the Initiating Holders shall so advise all Holders that otherwise would be underwritten pursuant hereto, and the number of Registrable Securities that may be included in the underwriting shall be allocated among such Holders, including the Initiating Holders, in proportion (as nearly as practicable) to the number of Registrable Securities owned by each Holder, or in such other proportion as shall mutually be agreed to by all such selling Holders; provided, however, that the number of Registrable Securities held by the Holders to be included in such underwriting shall not be reduced unless all other securities are first entirely excluded from the underwriting; provided further that the obligation of any Holder to indemnify, if any, pursuant to such underwriting agreement, shall be several, and not joint and several, among such Holders selling Registrable Securities and the liability of each such Holder shall be in proportion thereto, provided further that, such liability shall be limited to the net amount received by such Holder from the sale of its Registrable Securities in such registration, except in the case of fraud or willful misconduct by such Holder. To facilitate the allocation of shares in accordance with the above provision, the Company or the underwriters may round the number of shares allocated to any Holder to the nearest 100 shares.

(b) In connection with any offering involving an underwriting of shares of the Company's capital stock pursuant to Section 2.2, the Company shall not be required to include any of the Registrable Securities in such underwriting unless the Holders accept the terms of the underwriting as agreed upon between the Company and its underwriters, and then only in such quantity as the underwriters in their sole discretion determine will not jeopardize the success of the offering by the Company. If the total number of securities, including Registrable Securities, requested by stockholders to be included in such offering exceeds the number of securities to be sold (other than by the Company) that the underwriters in their reasonable discretion determine is compatible with the success of the offering, then the Company shall be required to include in the offering only that number of such securities, including Registrable Securities, which the underwriters and the Company in their sole discretion determine will not jeopardize the success of the offering. If the underwriters determine that less than all of the Registrable Securities requested

to be registered can be included in such offering, then the Registrable Securities that are included in such offering shall be allocated among the selling Holders in proportion (as nearly as practicable to) the number of Registrable Securities owned by each selling Holder or in such other proportions as shall mutually be agreed to by all such selling Holders. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round the number of shares allocated to any Holder to the nearest 100 shares. Notwithstanding the foregoing, in no event shall (i) the number of Registrable Securities included in the offering be reduced unless all other securities (other than securities to be sold by the Company) are first entirely excluded from the offering, or (ii) the number of Registrable Securities included in the offering be reduced below twenty percent (20%) of the total number of securities included in such offering, unless such offering is the IPO, in which case the selling Holders may be excluded further if the underwriters make the determination described above and no other stockholder's securities are included in such offering, or (iii) notwithstanding (ii) above, any Registrable Securities which are not Key Holder Registrable Securities be excluded from such underwriting unless all Key Holder Registrable Securities are first excluded from such offering. For purposes of the provision in this Section 2.3(b) concerning apportionment, for any selling Holder that is a partnership, limited liability company, or corporation, the partners, members, retired partners, retired members, stockholders, and Affiliates of such Holder, or the estates and Immediate Family Members of any such partners, retired partners, members, and retired members and any trusts for the benefit of any of the foregoing Persons, shall be deemed to be a single "selling Holder," and any pro rata reduction with respect to such "selling Holder" shall be based upon the aggregate number of Registrable Securities owned by all Persons included in such "selling Holder" as defined in this sentence.

(c) For purposes of Section 2.1, a registration shall not be counted as "effected" if, as a result of an exercise of the underwriter's cutback provisions in Section 2.3(a), less than fifty percent (50%) of the total number of Registrable Securities that Holders have requested to be included in such registration statement are actually included.

2.4 Obligations of the Company.

Whenever required under this Section 2 to effect the registration of any Registrable Securities, the Company shall, as expeditiously as reasonably possible:

(a) prepare and file with the SEC a registration statement with respect to such Registrable Securities and use its commercially reasonable efforts to cause such registration statement to become effective and, upon the request of the Holders of a majority of the Registrable Securities registered thereunder, keep such registration statement effective for a period of up to one hundred twenty (120) days or, if earlier, until the distribution contemplated in the registration statement has been completed; provided, however, that (i) such one hundred twenty (120) day period shall be extended for a period of time equal to the period the Holder refrains, at the request of an underwriter of the Company, from selling any securities included in such registration, and (ii) in the case of any registration of Registrable Securities on Form S-3 that are intended to be offered on a continuous or delayed basis, subject to compliance with applicable SEC rules, such one hundred twenty (120) day period shall be extended for up to one hundred eighty (180) days, if necessary, to keep the registration statement effective until all such Registrable Securities are sold; eighty (180) days, if necessary, to keep the registration statement effective until all such Registrable Securities are sold;

(b) prepare and file with the SEC such amendments and supplements to such registration statement, and the prospectus used in connection with such registration statement, as may be necessary to comply with the Securities Act in order to enable the disposition of all securities covered by such registration statement;

(c) furnish to the selling Holders such numbers of copies of a prospectus, including a preliminary prospectus, as required by the Securities Act, and such other documents as the Holders may reasonably request in order to facilitate their disposition of their Registrable Securities;

(d) use its commercially reasonable efforts to register and qualify the securities covered by such registration statement under such other securities or blue-sky laws of such jurisdictions as shall be reasonably requested by the selling Holders; provided that the Company shall not be required to qualify to do business or to file a general consent to service of process in any such states or jurisdictions, unless the Company is already subject to service in such jurisdiction and except as may be required by the Securities Act;

(e) in the event of any underwritten public offering, enter into and perform its obligations under an underwriting agreement, in usual and customary form, with the underwriter(s) of such offering;

(f) use its commercially reasonable efforts to cause all such Registrable Securities covered by such registration statement to be listed on a national securities exchange or trading system and each securities exchange and trading system (if any) on which similar securities issued by the Company are then listed;

(g) provide a transfer agent and registrar for all Registrable Securities registered pursuant to this Agreement and provide a CUSIP number for all such Registrable Securities, in each case not later than the effective date of such registration;

(h) promptly make available for inspection by the selling Holders, any managing underwriter(s) participating in any disposition pursuant to such registration statement, and any attorney or accountant or other agent retained by any such underwriter or selected by the selling Holders, all financial and other records, pertinent corporate documents, and properties of the Company, and cause the Company's officers, directors, employees, and independent accountants to supply all information reasonably requested by any such seller, underwriter, attorney, accountant, or agent, in each case, as necessary or advisable to verify the accuracy of the information in such registration statement and to conduct appropriate due diligence in connection therewith;

(i) notify each selling Holder, promptly after the Company receives notice thereof, of the time when such registration statement has been declared effective or a supplement to any prospectus forming a part of such registration statement has been filed; and

(j) after such registration statement becomes effective, notify each selling Holder of any request by the SEC that the Company amend or supplement such registration statement or prospectus.

2.5 Furnish Information. It shall be a condition precedent to the obligations of the Company to take any action pursuant to this Section 2 with respect to the Registrable Securities of any selling Holder that such Holder shall furnish to the Company such information regarding itself, the Registrable Securities held by it, and the intended method of disposition of such securities as is reasonably required to effect the registration of such Holder's Registrable Securities.

2.6 Expenses of Registration. All expenses (other than Selling Expenses) incurred in connection with registrations, filings, or qualifications pursuant to Section 2, including all registration, filing, and qualification fees; printers' and accounting fees; fees and disbursements of counsel for the Company; and the reasonable fees and disbursements of one counsel for the selling Holders ("Selling Holder Counsel") selected by the Holders of at least a majority in interest of the Registrable Securities to be included in the applicable registration, shall be borne and paid by the Company; provided, however, that the Company shall not be required to pay for any expenses of any registration proceeding begun pursuant to Section 2.1 if the registration request is subsequently withdrawn at the request of the Holders of at least a majority in interest of the Registrable Securities to be registered (in which case all selling Holders shall bear such expenses pro rata based upon the number of Registrable Securities that were to be included in the withdrawn registration), unless the Required Holders agree to forfeit their right to one registration pursuant to Section 2.l(a) or Section 2.l(b), as the case may be; provided further that if, at the time of such withdrawal, the Holders have learned of a material adverse change in the condition, business, or prospects of the Company from that known to the Holders at the time of their request and have withdrawn the request with reasonable promptness after learning of such information, then the Holders shall not be required to pay any of such expenses and shall not forfeit their right to one registration pursuant to Section 2.l(a) or Section 2.l(b), as the case may be. All Selling Expenses relating to Registrable Securities registered pursuant to this Section 2 shall be borne and paid by the Holders pro rata on the basis of the number of Registrable Securities registered on their behalf.

2.7 Delay of Registration. No Holder shall have any right to obtain or seek an injunction restraining or otherwise delaying any registration pursuant to this Agreement as the result of any controversy that might arise with respect to the interpretation or implementation of this Section 2.

2.8 Indemnification. If any Registrable Securities are included in a registration statement under this Section 2:

(a) To the extent permitted by law, the Company will indemnify and hold harmless each selling Holder, and the partners, members, officers, directors, and stockholders of each such Holder; legal counsel and accountants for each such Holder; any underwriter (as defined in the Securities Act) for each such Holder; and each Person, if any, who controls such Holder or underwriter within the meaning of the Securities Act or the Exchange Act, against any Damages, and the Company will pay to each such Holder, underwriter, controlling Person, or other aforementioned Person any legal or other expenses reasonably incurred thereby in connection with investigating or defending any claim or proceeding from which Damages may result, as such expenses are incurred; provided, however, that the indemnity agreement contained in this Section 2.8(a) shall not apply to amounts paid in settlement of any such claim or proceeding if such settlement is effected without the consent of the Company, which consent shall not be unreasonably withheld, nor shall the Company be liable for any Damages to the extent that they arise out of or are based upon actions or omissions made in reliance upon and in conformity with written information furnished by or on behalf of any such Holder, underwriter, controlling Person, or other aforementioned Person expressly for use in connection with such registration.

(b) To the extent permitted by law, each selling Holder, severally and not jointly, will indemnify and hold harmless the Company, and each of its directors, each of its officers who has signed the registration statement, each Person (if any), who controls the Company within the meaning of the Securities Act, legal counsel and accountants for the Company, any underwriter (as defined in the Securities Act), any other Holder selling securities in such registration statement, and any controlling Person of any such underwriter or other Holder, against any Damages, in each case only to the extent that such Damages arise out of or are based upon actions or omissions made in reliance upon and in conformity with written information furnished by or on behalf of such selling Holder expressly for use in connection with such registration; and each such selling Holder will pay to the Company and each other aforementioned Person any legal or other expenses reasonably incurred thereby in connection with investigating or defending any claim or proceeding from which Damages may result, as such expenses are incurred; provided, however, that the indemnity agreement contained in this Section 2.8(b) shall not apply to amounts paid in settlement of any such claim or proceeding if such settlement is effected without the consent of the Holder, which consent shall not be unreasonably withheld; and provided further that in no event shall the aggregate amounts payable by any Holder by way of indemnity or contribution under this Section 2.8(b) or under Section 2.8(d) exceed, in the aggregate, the net proceeds from the offering received by such Holder, except in the case of fraud or willful misconduct by such Holder.

(c) Promptly after receipt by an indemnified party under this Section 2.8 of notice of the commencement of any action (including any governmental action) for which a party may be entitled to indemnification hereunder, such indemnified party will, if a claim in respect thereof is to be made against any indemnifying party under this Section 2.8, give the indemnifying party notice of the commencement thereof. The indemnifying party shall have the right to participate in such action and, to the extent the indemnifying party so desires, participate jointly with any other indemnifying party to which notice has been given, and to assume the

defense thereof with counsel mutually satisfactory to the parties; provided, however, that an indemnified party (together with all other indemnified parties that may be represented without conflict by one counsel) shall have the right to retain one separate counsel, with the fees and expenses to be paid by the indemnifying party, if representation of such indemnified party by the counsel retained by the indemnifying party would be inappropriate due to actual or potential differing interests between such indemnified party and any other party represented by such counsel in such action. The failure to give notice to the indemnifying party within a reasonable time of the commencement of any such action shall relieve such indemnifying party of any liability to the indemnified party under this Section 2.8, to the extent that such failure materially prejudices the indemnifying party's ability to defend such action. The failure to give notice to the indemnifying party will not relieve it of any liability that it may have to any indemnified party otherwise than under this Section 2.8.

(d) To provide for just and equitable contribution to joint liability under the Securities Act in any case in which either (i) any party otherwise entitled to indemnification hereunder makes a claim for indemnification pursuant to this Section 2.8 but it is judicially determined (by the entry of a final judgment or decree by a court of competent jurisdiction and the expiration of time to appeal or the denial of the last right of appeal) that such indemnification may not be enforced in such case, notwithstanding the fact that this Section 2.8 provides for indemnification in such case, or (ii) contribution under the Securities Act may be required on the part of any party hereto for which indemnification is provided under this Section 2.8, then, and in each such case, such parties will contribute to the aggregate losses, claims, damages, liabilities, or expenses to which they may be subject (after contribution from others) in such proportion as is appropriate to reflect the relative fault of each of the indemnifying party and the indemnified party in connection with the statements, omissions, or other actions that resulted in such loss, claim, damage, liability, or expense, as well as to reflect any other relevant equitable considerations. The relative fault of the indemnifying party and of the indemnified party shall be determined by reference to, among other things, whether the untrue or allegedly untrue statement of a material fact, or the omission or alleged omission of a material fact, relates to information supplied by the indemnifying party or by the indemnified party and the parties' relative intent, knowledge, access to information, and opportunity to correct or prevent such statement or omission; provided, however, that, in any such case, (x) no Holder will be required to contribute any amount in excess of the public offering price of all such Registrable Securities offered and sold by such Holder pursuant to such registration statement, and (y) no Person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any Person who was not guilty of such fraudulent misrepresentation; and provided further that in no event shall a Holder's liability pursuant to this Section 2.8(d), when combined with the amounts paid or payable by such Holder pursuant to Section 2.8(b), exceed the proceeds from the offering received by such Holder (net of any Selling Expenses paid by such Holder), except in the case of willful misconduct or fraud by such Holder.

(e) Notwithstanding the foregoing, to the extent that the provisions on indemnification and contribution contained in the underwriting agreement entered into in connection with the underwritten public offering are in conflict with the foregoing provisions, the provisions in the underwriting agreement shall control.

(f) Unless otherwise superseded by an underwriting agreement entered into in connection with the underwritten public offering, the obligations of the Company and Holders under this Section 2.8 shall survive the completion of any offering of Registrable Securities in a registration under this Section 2, and otherwise shall survive the termination of this Agreement.

2.9 Reports Under Exchange Act. With a view to making available to the Holders the benefits of SEC Rule 144 and any other rule or regulation of the SEC that may at any time permit a Holder to sell securities of the Company to the public without registration or pursuant to a registration on Form S-3, the Company shall:

(a) make and keep available adequate current public information, as those terms are understood and defined in SEC Rule 144, at all times after the effective date of the registration statement filed by the Company for the IPO;

(b) use commercially reasonable efforts to file with the SEC in a timely manner all reports and other documents required of the Company under the Securities Act and the Exchange Act (at any time after the Company has become subject to such reporting requirements); and

(c) furnish to any Holder, so long as the Holder owns any Registrable Securities, forthwith upon request (i) to the extent accurate, a written statement by the Company that it has complied with the reporting requirements of SEC Rule 144 (at any time after ninety (90) days after the effective date of the registration statement filed by the Company for the IPO), the Securities Act, and the Exchange Act (at any time after the Company has become subject to such reporting requirements), or that it qualifies as a registrant whose securities may be resold pursuant to Form S-3 (at any time after the Company so qualifies); (ii) a copy of the most recent annual or quarterly report of the Company and such other reports and documents so filed by the Company; and (iii) such other information as may be reasonably requested in availing any Holder of any rule or regulation of the SEC that permits the selling of any such securities without registration (at any time after the Company has become subject to the reporting requirements under the Exchange Act) or pursuant to Form S-3 (at any time after the Company so qualifies to use such form).

2.10 Limitations on Subsequent Registration Rights. From and after the date of this Agreement, the Company shall not, without the prior written consent of the Required Holders, enter into any agreement with any holder or prospective holder of any securities of the Company that would allow such holder or prospective holder (i) to include such securities in any registration unless, under the terms of such agreement, such holder or prospective holder may include such securities in any such registration only to the extent that the inclusion of such securities will not reduce the number of the Registrable Securities of the Holders that are included or (ii) to demand registration of any securities held by such holder or prospective holder; provided that this limitation shall not apply to any additional Investor who becomes a party to this Agreement in accordance with Section 6.9.

2.11 "Market Stand-off" Agreement. Each Holder hereby agrees that it will not, without the prior written consent of the managing underwriter, during the period commencing on the date of the final prospectus relating to the IPO and ending on the date specified by the Company and the managing underwriter (such period not to exceed one hundred eighty (180) days in the case of the IPO, or such other period as may be requested by the Company or an underwriter to accommodate regulatory restrictions on (1) the publication or other distribution of research reports, and (2) analyst recommendations and opinions, including, but not limited to, the restrictions contained in FINRA Rule 2711(f)(4) or NYSE Rule 472(f)(4), or any successor provisions or amendments thereto), or ninety (90) days in the case of any registration other than the IPO, or such other period as may be requested by the Company or an underwriter to accommodate regulatory restrictions on (1) the publication or other distribution of research reports and (2) analyst recommendations and opinions, including, but not limited to, the restrictions contained in FINRA Rule 2711(f)(4) or NYSE Rule 472(f)(4), or any successor provisions or amendments thereto), (i) lend; offer; pledge; sell; contract to sell; sell any option or contract to purchase; purchase any option or contract to sell; grant any option, right, or warrant to purchase; or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock or any securities convertible into or exercisable or exchangeable (directly or indirectly) for Common Stock held immediately before the effective date of the registration statement for such offering, or (ii) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of such securities, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of Common Stock or other securities, in cash, or otherwise. The foregoing provisions of this Section 2.11 (A) shall apply only to the IPO, (B) shall not apply to shares of Common Stock acquired in the IPO or in the open market following the IPO, (C) shall not apply to the sale of any shares to an underwriter pursuant to an underwriting agreement, and (D) shall be applicable to the Holders only if all officers and directors are subject to the same restrictions and the Company uses commercially reasonable efforts to obtain a similar agreement from all stockholders individually owning more than two percent (2%) of the Company's outstanding Common Stock (after giving effect to conversion into Common Stock of all outstanding Preferred Stock) The underwriters in connection with such registration are intended third-party beneficiaries of this Section 2.11 and shall have the right, power, and authority to enforce the provisions hereof as though they were a party hereto. Each Holder further agrees to execute such agreements as may be reasonably requested by the underwriters in connection with such registration that are consistent with this Section 2.11 or that are necessary to give further effect thereto. Any discretionary waiver or termination of the restrictions of any or all of such agreements by the Company or the underwriters shall apply pro rata to all Holders subject to such agreements, based on the number of shares subject to such agreements.

2.12 Restrictions on Transfer.

(a) The Preferred Stock and the Registrable Securities shall not be sold, pledged, or otherwise transferred, and the Company shall not recognize and shall issue stop-

transfer instructions to its transfer agent with respect to any such sale, pledge, or transfer, except upon the conditions specified in this Agreement, which conditions are intended to ensure compliance with the provisions of the Securities Act. A transferring Holder will cause any proposed purchaser, pledgee, or transferee of the Preferred Stock and the Registrable Securities held by such Holder to agree to take and hold such securities subject to the provisions and upon the conditions specified in this Agreement. Notwithstanding the foregoing, the Company shall not require any transferee of shares pursuant to an effective registration statement or, following the IPO, SEC Rule 144 to be bound by the terms of this Agreement.

(b) Each certificate, instrument, or book entry representing (i) the Preferred Stock, (ii) the Registrable Securities, and (iii) any other securities issued in respect of the securities referenced in clauses (i) and (ii), upon any stock split, stock dividend, recapitalization, merger, consolidation, or similar event, may (unless otherwise permitted by the provisions of Section 2.12(c)) be stamped or otherwise imprinted with a legend substantially in the following form:

> THE SECURITIES REPRESENTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. SUCH SHARES MAY NOT BE SOLD, PLEDGED, OR TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR A VALID EXEMPTION FROM THE REGISTRATION AND PROSPECTUS DELIVERY REQUIREMENTS OF SAID ACT.
>
> THE SECURITIES REPRESENTED HEREBY MAY BE TRANSFERRED ONLY IN ACCORDANCE WITH THE TERMS OF AN AGREEMENT BETWEEN THE COMPANY AND THE STOCKHOLDER, A COPY OF WHICH IS ON FILE WITH THE SECRETARY OF THE COMPANY.

The Holders consent to the Company making a notation in its records and giving instructions to any transfer agent of the Restricted Securities in order to implement the restrictions on transfer set forth in this Section 2.12.

(c) The holder of Restricted Securities, by acceptance of ownership thereof, agrees to comply in all respects with the provisions of this Section 2. Before any proposed sale, pledge, or transfer of any Restricted Securities, unless there is in effect a registration statement under the Securities Act covering the proposed transaction, or, following the IPO, the transfer is made pursuant to SEC Rule 144, the Holder thereof shall give notice to the Company of such Holder's intention to effect such sale, pledge, or transfer. Each such notice shall describe the manner and circumstances of the proposed sale, pledge, or transfer in sufficient detail and, if reasonably requested by the Company, shall be accompanied at such Holder's expense by either (i) a written opinion of legal counsel who shall, and whose legal opinion shall, be reasonably satisfactory to the Company, addressed to the Company, to the effect that the proposed transaction may be effected without registration under the Securities Act; (ii) a "no action" letter from the SEC to the effect that the proposed sale, pledge, or transfer of such Restricted Securities without

registration will not result in a recommendation by the staff of the SEC that action be taken with respect thereto; or (iii) any other evidence reasonably satisfactory to counsel to the Company to the effect that the proposed sale, pledge, or transfer of the Restricted Securities may be effected without registration under the Securities Act, whereupon the Holder of such Restricted Securities shall be entitled to sell, pledge, or transfer such Restricted Securities in accordance with the terms of the notice given by the Holder to the Company. The Company will not require such a legal opinion or "no action" letter (x) in any transaction in compliance with SEC Rule 144 or (y) in any transaction in which such Holder distributes Restricted Securities to an Affiliate of such Holder for no consideration; provided that, with respect to transfers under the foregoing clause (y), each transferee agrees in writing to be subject to the terms of this Section 2.12. Each certificate, instrument, or book entry representing the Restricted Securities transferred as above provided may be notated with or bear, except if such transfer is made pursuant to SEC Rule 144 or pursuant to an effective registration statement, the appropriate restrictive legend set forth in Section 2.12(b), except that such certificate instrument, or book entry shall not be notated with, nor bear, such restrictive legend if, in the opinion of counsel for such Holder and the Company, such legend is not required in order to establish compliance with any provisions of the Securities Act.

2.13 Termination of Registration Rights. The right of any Holder to request registration or inclusion of Registrable Securities in any registration pursuant to Section 2.1 or Section 2.2 shall terminate upon the earliest to occur of:

(a) the closing of a Deemed Liquidation Event;

(b) following the IPO, such time as Rule 144 or another similar exemption under the Securities Act is available for the sale of all of such Holder's shares without limitation during a three-month period without registration; and

(c) the fifth (5th) anniversary of the IPO.

3. Information and Observer Rights.

3.1 Delivery of Financial Statements. The Company shall deliver to each Major Investor:

(a) as soon as practicable, but in any event within ninety (90) days after the end of each fiscal year of the Company, (i) a balance sheet as of the end of such year, (ii) statements of income and of cash flows for such year, and (iii) a statement of stockholders' equity as of the end of such year; all such financial statements audited and certified by independent public accountants of nationally recognized standing, associated with one of the "Big-4" accounting firms, selected by the Company and approved by the Board of Directors;

(b) as soon as practicable but in any event within forty-five (45) days after the end of each of the first three (3) quarters of each fiscal year of the Company, unaudited statements of income and of cash flows for such fiscal quarter, and an unaudited balance sheet and

a statement of stockholders' equity as of the end of such fiscal quarter, all prepared in accordance with GAAP (except that such financial statements may (i) be subject to normal year-end audit adjustments and (ii) not contain all notes thereto that may be required in accordance with GAAP);

(c) as soon as practicable, but in any event thirty (30) days before the end of each fiscal year, a budget and business plan for the next fiscal year (collectively, the "Budget"), approved by the Board of Directors and prepared on a monthly basis, including balance sheets, income statements, and statements of cash flow for such months and, promptly after prepared, any other budgets or revised budgets prepared by the Company.

If, for any period, the Company has any subsidiary whose accounts are consolidated with those of the Company, then in respect of such period the financial statements delivered pursuant to the foregoing sections shall be the consolidated and consolidating financial statements of the Company and all such consolidated subsidiaries.

Notwithstanding anything else in this this Agreement to the contrary, (w) the Company may cease providing the information set forth in this Section 3.1 during the period starting with the date forty-five (45) days before the Company's good-faith estimate of the date of filing of a registration statement if it reasonably concludes it must do so to comply with the SEC rules applicable to such registration statement and related offering; provided that the Company's covenants under this Section 3.1 shall be reinstated at such time as the Company is no longer actively employing its commercially reasonable efforts to cause such registration statement to become effective, (x) the Company shall not be obligated to provide information (i) that the Company reasonably determines in good faith to be a trade secret or the Board reasonably determines in good faith to be sensitive confidential information; or (ii) the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel, (y) the Company may cease providing the information set forth in this Section 3.1 to any Major Investor that the Board of Directors has reasonably and unanimously (excluding any member of the Board of Directors who is affiliated with such Major Investor) determined to be a Competitor of the Company, and (z) any and all information provided to a Major Investor pursuant hereto shall be subject to the confidentiality provisions set forth in Section 3.5 of this Agreement.

3.2 Inspection. The Company shall permit each Major Investor (provided that the Board of Directors has not reasonably determined that such Major Investor is a Competitor of the Company), at such Major Investor's expense, to visit and inspect the Company's properties; examine its books of account and records; and discuss the Company's affairs, finances, and accounts with its officers, during normal business hours of the Company as may be reasonably requested by the Major Investor; provided, however, that the Company shall not be obligated pursuant to this Section 3.2 to provide access to any information that it reasonably and in good faith considers to be a trade secret or confidential information (unless covered by an enforceable confidentiality agreement, in form acceptable to the Company) or the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel.

3.3 Observer Rights. As long as Novartis owns shares of the issued and outstanding capital stock of the Company, the Company shall invite a representative of Novartis to attend all meetings of the Board of Directors in a nonvoting observer capacity and, in this respect, shall give such representative copies of all notices, minutes, consents, and other materials that it provides to its directors at the same time and in the same manner as provided to such directors; provided, however, that such representative shall agree to hold in confidence and trust with respect to all information so provided; and provided further, that the Company reserves the right to withhold any information and to exclude such representative from any meeting or portion thereof if the Board of Directors has reasonably and unanimously (excluding any member of the Board of Directors who is affiliated with Novartis) determined that access to such information or attendance at such meeting (a) would upon advice from the Company's qualified legal counsel, adversely affect the attorney-client privilege between the Company and its counsel, (b) would result in disclosure of trade secrets, (c) would result in a conflict of interest, or (d) if such Investor or its representative is a Competitor of the Company.

3.4 Termination of Information Rights and Observer Rights. The covenants set forth in Sections 3.1, 3.2 and 3.3 shall terminate and be of no further force or effect upon the earliest to occur of (i) immediately before, but subject to, the consummation of the IPO, (ii) when the Company first becomes subject to the periodic reporting requirements of Section 12(g) or 15(d) of the Exchange Act, or (iii) a Deemed Liquidation Event.

3.5 Confidentiality. Each Investor agrees that such Investor will keep confidential and will not disclose, divulge, or use for any purpose (other than to monitor its investment in the Company) any confidential information obtained from the Company pursuant to the terms of this Agreement (including notice of the Company's intention to file a registration statement), unless such confidential information (a) is known or becomes known to the public in general (other than as a result of a breach of this Sections 3.5 by such Investor), (b) is or has been independently developed or conceived by the Investor without use of the Company's confidential information, or (c) is or has been made Known or disclosed to the Investor by a third party without a breach of any obligation of confidentiality such third party may have to the Company; provided, however, that an Investor may disclose confidential information (i) to its attorneys, accountants, consultants, and other professionals to the extent necessary to obtain their services in connection with monitoring its investment in the Company; (ii) to any prospective purchaser of any Registrable Securities from such Investor, if such prospective purchaser agrees to be bound by the provisions of this Section 3.5; (iii) to any existing or prospective Affiliate, partner member, stockholder, or wholly owned subsidiary of such Investor in the ordinary course of business, provided that such Investor informs such Person that such information is confidential and directs such Person to maintain the confidentiality of such information; or (iv) as may otherwise be required by law, rule or regulation, provided that the Investor promptly notifies the Company of such disclosure (to the extent permissible) and takes reasonable steps to minimize the extent of any such required disclosure.

4. Rights to Future Stock Issuances.

4.1 Right of First Offer. Subject to the terms and conditions of this Section 4.1 and applicable securities laws, if the Company proposes to offer or sell any New Securities, the Company shall first offer such New Securities to (i) each Major Investor, and (ii) only in the event that such an offer or sale of New Securities is a financing in which BMS is entitled to participate in accordance with the provisions of Section 8.1.2 of the BMS License Agreement – also to BMS. A Major Investor shall be entitled to apportion the right of first offer hereby granted to it among itself and its Affiliates in such proportions as it deems appropriate; provided that each such Affiliate (x) is not a Competitor or FOIA Party, unless such party's purchase of New Securities is otherwise consented to by the Board of Directors, (y) agrees to enter into this Agreement and the Stockholders Agreement of even date herewith among the Company, the Investors and the other parties named therein, as an "Investor" under each such agreement (provided that any Competitor or FOIA Party shall not be entitled to any rights as a Major Investor under Sections 3.1, 3.2 and 4.1 hereof), and (z) agrees to purchase at least such number of New Securities as are allocable hereunder to the Major Investor holding the fewest number of Preferred Stock and any other Derivative Securities.

(a) The Company shall give notice (the "Offer Notice") to each Major Investor and, if applicable in accordance with the foregoing, also to BMS, stating (i) its bona fide intention to offer such New Securities, (ii) the number of such New Securities to be offered, and (iii) the price and terms, if any, upon which it proposes to offer such New Securities.

(b) By notification to the Company within fourteen (14) days after the Offer Notice is given, each Major Investor (and, if applicable in accordance with the foregoing, BMS) may elect to purchase or otherwise acquire, at the price and on the terms specified in the Offer Notice, up to that portion of such New Securities which equals the proportion that the Common Stock then held by such Major Investor (including all shares of Common Stock then issuable (directly or indirectly) upon conversion and/or exercise, as applicable, of the Preferred Stock and any other Derivative Securities then held by such Major Investor) bears to the total number of shares of Common Stock of the Company then issued and outstanding (assuming full conversion and/or exercise, as applicable, of all Preferred Stock); provided, that if BMS is entitled to purchase or otherwise acquire a portion of such New Securities in accordance with Section 8.1.2 of the BMS License Agreement, then the number of New Securities each Major Investor is entitled to purchase or acquire hereunder shall be proportionally reduced to the extent required (if at all required) to allow the sale to BMS of that number of New Securities it has elected to purchase or otherwise acquire in such financing in accordance with Section 8.1.2 of the BMS License Agreement, and provided, further, that, notwithstanding anything to the contrary and unless approved by holders of at least a majority of the Registrable Securities then outstanding and held by the Major Investors, in no event shall BMS be entitled to purchase or otherwise acquire any New Securities in excess of the amount it is entitled to purchase in such financing pursuant to Section 8.1.2 of the BMS License Agreement (i.e. as required in order to maintain its eight percent (8.0%) ownership interest in Company (on a fully diluted basis)). At the expiration of such fourteen (14) day period, the Company shall promptly notify each Major Investor that elects to purchase or

acquire all the shares available to it (each, a "Fully Exercising Investor") of any other Major Investor's failure to do likewise. During the ten (10) day period commencing after the Company has given such notice, each Fully Exercising Investor may, by giving notice to the Company, elect to purchase or acquire, in addition to the number of shares specified above, up to that portion of the New Securities for which Major Investors were entitled to subscribe but that were not subscribed for by the Major Investors, which is equal to the proportion that the Common Stock issued and held, or issuable upon conversion of Preferred Stock and any other Derivative Securities then held, by such Fully Exercising Investor bears to the number of shares of Common Stock issued and held, or issuable (directly or indirectly) upon conversion of the Preferred Stock and any other Derivative Securities then held, by all Fully Exercising Investors who wish to purchase such unsubscribed shares. The closing of any sale pursuant to this Section 4.1(b) shall occur within the later of one hundred twenty (120) days after the date that the Offer Notice is given and the date of initial sale of New Securities pursuant to Section 4.1(c).

(c) If all New Securities referred to in the Offer Notice are not elected to be purchased or acquired as provided in Section 4.1(b), the Company may, during the ninety (90) day period following the expiration of the periods provided in Section 4.1(b), offer and sell the remaining unsubscribed portion of such New Securities to any Person or Persons at a price not less than, and upon terms no more favorable to the offeree than, those specified in the Offer Notice. If the Company does not enter into an agreement for the sale of the New Securities within such period, or if such agreement is not consummated within thirty (30) days of the execution thereof, the right provided hereunder shall be deemed to be revived and such New Securities shall not be offered unless first reoffered to the Major Investors in accordance with this Section 4.1.

(d) The right of first offer in this Section 4.1 shall not be applicable to (i) Exempted Securities (as defined in the Certificate of Incorporation), and (ii) shares of Common Stock issued in the IPO.

4.2 Termination. The covenants set forth in Section 4.1 shall terminate and be of no further force or effect upon the earliest to occur of (i) immediately before, but subject to, the consummation of the IPO, (ii) when the Company first becomes subject to the periodic reporting requirements of Section 12(g) or 15(d) of the Exchange Act, or (iii) upon a Deemed Liquidation Event.

4.3 BMS. The rights of BMS under this Section 4 are an implementation of its participation rights (if and to the extent applicable) under Section 8.1.2 of the BMS License Agreement, and are neither in addition to nor in substitution of the rights of BMS under Section 8.1.2 of the BMS License Agreement.

5. Additional Covenants.

5.1 Insurance. The Company shall use its commercially reasonable efforts to obtain or renew, if applicable, within ninety (90) days of the date hereof, from financially sound and reputable insurers Directors and Officers Errors and Omissions insurance in an amount and on

terms and conditions satisfactory to the Board of Directors, and will use commercially reasonable efforts to cause such insurance policy to be maintained until such time as the Board of Directors determines that such insurance should be discontinued.

5.2 Board Expenses. The Company shall reimburse the non-employee directors for all reasonable out-of-pocket expenses incurred (consistent with the Company's policies) in connection with their role as a director of the Company.

5.3 Directors' Liability and Indemnification. The Company hereby acknowledges that one or more of the directors nominated by holders of Preferred Stock may have certain rights to indemnification, advancement of expenses and/or insurance provided by one or more of the Investors and certain of their affiliates (collectively, the "Fund Indemnitors") for alleged acts or omissions in their capacities as directors of the Company. The Company hereby agrees (i) that it is the indemnitor of first resort (i.e., its obligations to any such director are primary and any obligation of the Fund Indemnitors to advance expenses or to provide indemnification for the same expenses or liabilities incurred by such director are secondary), (ii) that it shall be required to advance the full amount of expenses incurred by such director and shall be liable for the full amount of all expenses, judgments, penalties, fines and amounts paid in settlement by or on behalf of any such director to the extent legally permitted and as required by the Certificate of Incorporation or By-laws of the Company (or any agreement between the Company and such director), without regard to any rights such director may have against the Fund Indemnitors, and, (iii) that it irrevocably waives, relinquishes and releases the Fund Indemnitors from any and all claims against the Fund Indemnitors for contribution, subrogation or any other recovery of any kind in respect thereof. The Company further agrees that no advancement or payment by the Fund Indemnitors on behalf of any such director with respect to any claim for which such director has sought indemnification from the Company shall affect the foregoing and the Fund Indemnitors shall have a right of contribution and/or be subrogated to the extent of such advancement or payment to all of the rights of recovery of such director against the Company.

5.5 Right to Conduct Activities. The Company hereby agrees and acknowledges that certain of the Investors and certain of their respective Affiliates are venture capital funds or professional investment funds (collectively, the "Funds"), and as such invest in numerous portfolio companies, some of which may be deemed competitive with the Company's business (as currently conducted or as may be conducted in the future). The Company hereby agrees that, to the extent permitted under applicable law, none of the Funds shall be liable to the Company for any claim arising out of, or based upon, (i) the investment by any such Fund in any entity competitive with the Company, or (ii) actions taken by any partner, officer or other representative of any such Fund to assist any such competitive company, whether or not such action was taken as a member of the board of directors of such competitive company or otherwise, and whether or not such action has a detrimental effect on the Company; provided, however, that the foregoing shall not relieve (x) any of the Investors from liability associated with the unauthorized disclosure of the Company's confidential information obtained pursuant to this Agreement, or (y) any director or officer of the Company from any liability associated with his or her fiduciary duties to the Company.

5.6 FCPA and Anti-Money Laundering Laws. The Company represents that it shall not (and shall not permit any of its subsidiaries or affiliates or any of its or their respective directors, officers, managers, employees, independent contractors, representatives or agents to) promise, authorize or make any payment to, or otherwise contribute any item of value to, directly or indirectly, to any third party, including any Non-U.S. Official (as (as such term is defined in the U.S. Foreign Corrupt Practices Act of 1977, as amended (the "FCPA")), in each case, in violation of the FCPA, the U.K. Bribery Act, or any other applicable anti-bribery or anti-corruption law. The Company further represents that it shall (and shall cause each of its subsidiaries and affiliates to) cease all of its or their respective activities, as well as remediate any actions taken by the Company, its subsidiaries or affiliates, or any of their respective directors, officers, managers, employees, independent contractors, representatives or agents in violation of the FCPA, the U.K. Bribery Act, or any other applicable anti-bribery or anti-corruption law. The Company further represents that it shall (and shall cause each of its subsidiaries and affiliates to) maintain systems of internal controls (including, but not limited to, accounting systems, purchasing systems and billing systems) to ensure compliance with the FCPA, the U.K. Bribery Act, or any other applicable anti-bribery or anti-corruption law (including without limitation the United States Money Laundering Control Act of 1986). Upon request, the Company agrees to provide responsive information and/or certifications concerning its compliance with applicable anti-corruption laws. The Company shall promptly notify each Investor if the Company becomes aware of any Enforcement Action (as defined in the Purchase Agreement). The Company shall, and shall cause any direct or indirect subsidiary or entity controlled by it, whether now in existence or formed in the future, to comply with the FCPA. The Company shall use its best efforts to cause any direct or indirect subsidiary, whether now in existence or formed in the future, to comply in all material respects with all applicable laws.

5.7 Employee Agreements. The Company will cause (i) each person now or hereafter employed by it or by any subsidiary (or engaged by the Company or any subsidiary as a consultant/independent contractor) with access to confidential information and/or trade secrets to enter into a nondisclosure and proprietary rights assignment agreement; and (ii) each Key Employee to enter into noncompetition and nonsolicitation agreement. In addition, the Company shall not amend, modify, terminate, waive, or otherwise alter, in whole or in part, any restricted stock agreement between the Company and any employee, without the consent of the Board.

5.8 Employee Stock. Unless otherwise approved by the Board, all future employees and consultants of the Company who purchase, receive options to purchase, or receive awards of shares of the Company's capital stock after the date hereof shall be required to execute restricted stock or option agreements, as applicable, providing for (i) vesting of shares over a four (4) year period, with the first twenty-five percent (25%) of such options or shares vesting following twelve (12) months of continued employment or service, and the remaining shares vesting in equal monthly installments over the following thirty-six (36) months, and (ii) a market stand-off provision.

5.9 Covenants concerning Harel Group.

(a) (a) Reorganization. The Company hereby acknowledges that Harel Insurance Company Ltd. ("Harel") and certain of its Permitted Transferees (together, the "Harel Group") are subject to certain Israeli laws, which provide, among other things, that the Harel Group is prohibited from making investments in any Restricted Jurisdiction (as defined below), and, accordingly, the Company confirms that it shall not reorganize, reincorporate or redomicile (but shall not be limited from making investments) in any jurisdiction or country which is not (i) a jurisdiction considered to be an "investment grade" as of the date of such reorganization, reincorporation or redomiciliation (currently, a jurisdiction with a rating of BBB or higher), (ii) a permitted country as defined under the Israeli regulations that apply to the Harel Group as of the date of such reorganization, reincorporation or redomiciliation (currently, a jurisdiction with a rating of BBB or an OECD country), or (iii) any such jurisdiction or country that meets such criteria in subsections (i) and (ii) as of the date of such reorganization, reincorporation or redomiciliation (any jurisdiction which is not included in either of subsections (i), (ii) or (iii) - each, a "Restricted Jurisdiction").

(b) Governmental Authority. The Company hereby acknowledges that the Commissioner of the Capital Market, Insurance and Savings in Israel has jurisdiction over the Harel Group, and accordingly the Commissioner of the Capital Market, Insurance and Savings in Israel may claim to have jurisdiction with respect to the Company.

(c) No Pledge. The Company hereby acknowledges that (a) Harel is an institutional investor subject to Israeli law and (b) Harel is prohibited from granting a security interest in, or pledging to any lender of, Harel's equity interest in the Company, and accordingly, the Company agrees that Harel shall not be obligated to grant a security interest in, or pledge, its equity interest in the Company to any lender.

(d) Prohibited Tax Shelter Transactions. The Company shall use reasonable efforts not to engage in a transaction that, as of the date that the Company enters into a binding commitment to engage in such transaction, the Company reasonably believes to constitute a "prohibited tax shelter transaction" within the meaning of Section 4965 of the US Internal Revenue Code of 1986, as amended from time to time (or any corresponding provisions of succeeding law) (the "Code"). In the event that the Company has entered into such a prohibited tax shelter transaction, or that a transaction previously entered into has since been characterized as a prohibited tax shelter transaction, the Company shall promptly notify Harel of such fact and shall provide any information reasonably requested by Harel to satisfy its own tax filing obligations with respect to such transaction.

(e) Use of Harel Group's Name. Neither the Company nor any of its subsidiaries shall identify the Harel Group as investors in the Company in any press release, published notice or other publication without the prior written consent of Harel other than information that is in the public domain.

(f) Distribution in Kind; Valuation of Securities. The Company hereby acknowledges that the Harel Group is subject to Israeli laws that do not permit Harel to hold

investments in entities formed or organized in countries which are Restricted Jurisdiction. In light of the foregoing, the Company agrees that if it at any time proposes to distribute such securities to its shareholders, no such distribution to the shareholders shall be made until an alternative method with respect to Harel shall be consummated conferring upon Harel the economic benefits of such distribution in a manner that does not result in Harel being in violation of applicable laws. In addition, the Company, if so requested by Harel, shall obtain a bone fide valuation of any securities or property to be distributed thereby to its stockholders from a reputable independent valuation firm, at the Company's expense.

(g) Termination. The covenants contained in this Section 5.9 shall terminate upon such time as the Harel Group holds no equity securities of the Company. For as long as the Harel Group holds equity securities of the Company, this Section 5.9 may not be amended or terminated without the prior written consent of Harel.

5.10 Termination of Covenants. The covenants set forth in this Section 5 (except for Section 5.9 hereof, which shall terminate in accordance with Section 5.9(g)) shall terminate and be of no further force or effect upon the earliest to occur of (i) immediately before but subject to the consummation of an IPO or (ii) upon a Deemed Liquidation Event.

6. Miscellaneous.

6.1 Successors and Assigns. The rights under this Agreement may be assigned (but only with all related obligations) by a Holder to a transferee of Registrable Securities that (i) is an Affiliate of a Holder; or (ii) after such transfer, holds at least 1,000,000 shares of Registrable Securities (subject to appropriate adjustment for stock splits, stock dividends, combinations, and other recapitalizations), or, if less, all of the Registrable Securities held by such Holder; provided, however, that (x) the Company is, concurrently with such transfer, furnished with written notice of the name and address of such transferee and the Registrable Securities with respect to which such rights are being transferred; and (y) such transferee agrees in a written instrument delivered to the Company to be bound by and subject to the terms and conditions of this Agreement, including the provisions of Section 2.11. For the purposes of determining the number of shares of Registrable Securities held by a transferee, the holdings of a transferee (1) that is an Affiliate or stockholder of a Holder; (2) who is a Holder's Immediate Family Member; or (3) that is a trust for the benefit of an individual Holder or such Holder's Immediate Family Member, shall be aggregated together and with those of the transferring Holder and its Affiliates; provided further that all transferees who would not qualify individually for assignment of rights shall have a single attorney-in-fact for the purpose of exercising any rights, receiving notices, or taking any action under this Agreement. The terms and conditions of this Agreement inure to the benefit of and are binding upon the respective successors and permitted assignees of the parties, including without limitation, the Investor's Affiliates. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and permitted assignees any rights, remedies, obligations or liabilities under or by reason of this Agreement, except as expressly provided herein.

6.2 Governing Law. This Agreement and any controversy arising out of or relating to this Agreement shall be governed by and construed in accordance with the internal laws of the State of Delaware, without regard to conflict of law principles that would result in the application of any law other than the law of the State of Delaware.

6.3 Counterparts; Facsimile. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This Agreement may also be executed and delivered by facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com) or other form of electronic transmission method and any counterpart so delivered (with electronic confirmation of delivery) shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

6.4 Titles and Subtitles. The titles and subtitles used in this Agreement are for convenience only and are not to be considered in construing or interpreting this Agreement.

6.5 Notices. All notices, requests, and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given, delivered and received upon the earlier of actual receipt or (i) upon personal delivery to the party to be notified; (ii) when sent, if sent by electronic mail or facsimile (with electronic confirmation of delivery) during the recipient's normal business hours, and if not sent during normal business hours, then on the recipient's next business day; (iii) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid; or (iv) one (1) business day after the business day of deposit with a nationally recognized overnight courier, freight prepaid, specifying next-day delivery, with written verification of receipt. All communications shall be sent to the respective parties only at their addresses as set forth on Schedule A or Schedule B (as applicable) hereto, or to the principal office of the Company and to the attention of the Chief Executive Officer, in the case of the Company, or to such email address, facsimile number, or address as subsequently modified by written notice given in accordance with this Section 6.5. If notice is given to the Company, a copy, which shall not constitute notice, shall also be sent to Haim Gueta, Adv., at Meitar Liquornik Geva Leshem Tal, Law Offices, 16 Abba Hillel Silver Rd., Ramat-Gan, Israel, 5250608.

6.6 Amendments and Waivers. Any term of this Agreement may be amended and the observance of any term of this Agreement may be waived (either generally or in a particular instance, and either retroactively or prospectively) only with the written consent of the Company and the Required Holders; provided that the Company may in its sole discretion waive compliance with Section 2.12(c) (and the Company's failure to object promptly in writing after notification of a proposed assignment allegedly in violation of Section 2.12(c) shall be deemed to be a waiver); and provided further that any provision hereof may be waived by any waiving party on such party's own behalf, without the consent of any other party. Notwithstanding the foregoing, (a) this Agreement may not be amended or terminated and the observance of any term hereof may not be waived with respect to any Investor without the written consent of such Investor, unless such amendment, termination, or waiver applies to all Investors in the same fashion (it being agreed

that a waiver of the provisions of Section 4 of this Agreement by the Required Holders (the "Waiving Holders") with respect to a particular issuance shall not be effective as to any Investor who has not waived such right of first offer (a "Non-Waiving Holder") unless (1) no Waiving Holder purchases any New Securities in such issuance or (2) if any Waiving Holder purchases New Securities in such issuance, each Investor shall have been provided the opportunity to purchase up to such Investor's pro rata share (as calculated in the manner described in Section 4) of all of the New Securities that are allocated for purchase by the Investors), and (b) for as long as the Harel Group holds any equity securities of the Company, the provisions of Section 5.9 ('Covenants concerning Harel Group') may not be amended or terminated and the observance thereof may not be waived without the written consent of Harel, (c) for as long as BMS holds any equity securities of the Company, the provisions of Section 4 that refer to BMS may not be amended or terminated and the observance thereof may not be waived without the written consent of BMS, and (d) for as long as Novartis holds any equity securities of the Company, Section 3.3 may not be amended or terminated and the observance thereof may not be waived without the written consent of Novartis. Further, this Agreement may not be amended, and no provision hereof may be waived, in each case, in any way which would adversely affect the rights of the Key Holders hereunder in a manner disproportionate to any adverse effect such amendment or waiver would have on the rights of the Investors hereunder, without also the written consent of the holders of at least a majority of the Registrable Securities held by the Key Holders. The Company shall give prompt notice of any amendment or termination hereof or waiver hereunder to any party hereto that did not consent in writing to such amendment, termination, or waiver. Any amendment, termination, or waiver effected in accordance with this Section 6.6 shall be binding on all parties hereto, regardless of whether any such party has consented thereto. No waivers of or exceptions to any term, condition, or provision of this Agreement, in any one or more instances, shall be deemed to be or construed as a further or continuing waiver of any such term, condition, or provision.

6.7 Severability. In case any one or more of the provisions contained in this Agreement is for any reason held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision of this Agreement, and such invalid, illegal, or unenforceable provision shall be reformed and construed so that it will be valid, legal, and enforceable to the maximum extent permitted by law.

6.8 Aggregation of Stock. All shares of Registrable Securities held or acquired by Affiliates shall be aggregated together for the purpose of determining the availability of any rights under this Agreement and such Affiliated Person may apportion such rights as among themselves in any manner they deem appropriate.

6.9 Additional Investors. Notwithstanding anything to the contrary contained herein, if the Company issues additional shares of the Preferred Stock after the date hereof, any purchaser of such shares of Preferred Stock may become a party to this Agreement by executing and delivering an additional counterpart signature page or joinder agreement to this Agreement, and thereafter shall be deemed an "Investor" for all purposes hereunder. No action or consent by the Investors shall be required for such joinder to this Agreement by such additional Investor, so long as such additional Investor has agreed in writing to be bound by all of the obligations as an "Investor" hereunder.

6.10 Entire Agreement. This Agreement (including any Schedules and Exhibits hereto) constitutes the full and entire understanding and agreement among the parties with respect to the subject matter hereof, and any other written or oral agreement relating to the subject matter hereof existing between the parties is expressly canceled.

6.11 Dispute Resolution. The parties (a) hereby irrevocably and unconditionally submit to the jurisdiction of the state courts of the State of Delaware for the purpose of any suit, action or other proceeding arising out of or based upon this Agreement, (b) agree not to commence any suit, action or other proceeding arising out of or based upon this Agreement except in the state courts of State of Delaware, and (c) hereby waive, and agree not to assert, by way of motion, as a defense, or otherwise, in any such suit, action or proceeding, any claim that it is not subject personally to the jurisdiction of the above-named courts, that its property is exempt or immune from attachment or execution, that the suit, action or proceeding is brought in an inconvenient forum, that the venue of the suit, action or proceeding is improper or that this Agreement or the subject matter hereof may not be enforced in or by such court.

WAIVER OF JURY TRIAL: EACH PARTY HEREBY WAIVES ITS RIGHTS TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF THIS AGREEMENT, THE OTHER TRANSACTION DOCUMENTS, THE SECURITIES OR THE SUBJECT MATTER HEREOF OR THEREOF. THE SCOPE OF THIS WAIVER IS INTENDED TO BE ALL-ENCOMPASSING OF ANY AND ALL DISPUTES THAT MAY BE FILED IN ANY COURT AND THAT RELATE TO THE SUBJECT MATTER OF THIS TRANSACTION, INCLUDING, WITHOUT LIMITATION, CONTRACT CLAIMS, TORT CLAIMS (INCLUDING NEGLIGENCE), BREACH OF DUTY CLAIMS, AND ALL OTHER COMMON LAW AND STATUTORY CLAIMS. THIS SECTION HAS BEEN FULLY DISCUSSED BY EACH OF THE PARTIES HERETO AND THESE PROVISIONS WILL NOT BE SUBJECT TO ANY EXCEPTIONS. EACH PARTY HERETO HEREBY FURTHER WARRANTS AND REPRESENTS THAT SUCH PARTY HAS REVIEWED THIS WAIVER WITH ITS LEGAL COUNSEL, AND THAT SUCH PARTY KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS FOLLOWING CONSULTATION WITH LEGAL COUNSEL.

6.12 Delays or Omissions. No delay or omission to exercise any right, power or remedy accruing to any party under this Agreement, upon any breach or default of any other party under this Agreement, shall impair any such right, power or remedy of such non-breaching or non-defaulting party nor shall it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of or in any similar breach or default thereafter occurring; nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default previously or thereafter occurring. Any waiver, permit, consent or approval of any kind or character on the part of any party of any breach or default under this Agreement, or any waiver on the part of any party of any provisions or conditions of this Agreement, must be in writing and shall be effective only to the extent specifically set forth in such writing. All remedies, either under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative.

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

COMPANY:

AYALA PHARMACEUTICALS, INC.

By: /s/ Roni Mamluk
Name: Roni Mamluk
Title: Chief Executive Officer

Address:
Ayala Pharmaceuticals, Inc.
c/o PHS Corporate Services
1313 N. Market Street, Suite 5100
Wilmington, DE 19801

KEY HOLDERS

/s/ Roni Mamluk
Roni Mamluk

IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTORS

Israel Biotech Fund I, L.P

By its general partner:
Israel Biotech Fund GP Partners, L.P.

By its general partner:
I.B.F. Management, Ltd.

By: /s/ Yuval Cabilly
Yuval Cabilly Director

aMoon 2 Fund Limited Partnership

By: /s/ Yair Schindel
Name: Yair Schindel
Title: Managing Partner

By: /s/ Tomer Berkovits
Name: Tomer Berkovits
Title: Managing Director

Harel Insurance Company Ltd.

By: /s/ Harel Insurance Company Ltd.
Name:
Title:

Bristol-Myers Squibb Company

By:
Name:
Title:

SBI JI Innovation Fund Limited Partnership

By: /s/ Yusuke Inaba
ID Number: Yusuke Inaba TR9741779
Title: Authorized signatory of GP

IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTORS (continue)

Novartis Institutes for BioMedical Research, Inc.

By: /s/ Scott A. Brown
Name: Scott A. Brown
Title: VP General Counsel

IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTORS (continue)

Minick Family Trust

By: /s/ Scott Minick
Name: Scott Minick, Trustee
Title:

/s/ Mark Cohen
Mark Cohen

IBF Investors LLC

By: _____
Name:
Title:

Fridator Trust No. 4

By: _____
Name:
Title:

Arc Group Ventures LLC

By: /s/ Irene Susmano
Name: Irene Susmano
Title: Vice President

IB Landav Holdings LLC

By: /s/ David A. Crenshaw
Name: David A. Crenshaw
Title: Managing Member

_____
Eddy Shalev

Novit, LP (US Pharmacia)

By: /s/ Katarlyna Kusmierz
Name: Katarlyna Kusmierz
Title: General Partner, Novit US, Inc.

Erongo Ltd.

By: /s/ C. Spencer
Name: C. Spencer
Title: Authorised Signatory

For and on behalf of Corpserve Ltd
As sole corporate director of

By: /s/ J. Brosi
Name: J. Brosi
Title: Authorised Signatory

SCHEDULE A

NAME AND CONTACT OF INVESTORS

Israel Biotech Fund I, L.P

Ruhrberg Science Center, 3 Pekeris St., Rabin Science Park, Rehovot, 7670212, Israel
Fax number: +972722514177
Attn.: Sarit Steinberg sarit@israelbiotechfund.com

aMoon 2 Fund Limited Partnership

34 Jerusalem Street, Ra'anana, 4350108, Israel
Attention: Todd Sone; Adv. Michal Goren Miller
Tel +972-733989560; +972-58-6395511
Email: Contact@amoon.fund; todd@amoon.fund; michal@amoon.fund

with a copy to:
Naschitz, Brandes, Amir
Attention: Inbar Mishory Bartal, imishory@nblaw.com
+972-3-6235044, fax: +972-3-6235051

Harel Insurance Company Ltd.

Harel Building, 3 Abba Hillel St., Ramat Gan, 5211802, Israel
Attention: Guy Harmelin
guyha@harel-ins.co.il
Tel +972-37549797; Fax +972-3-7348858

Bristol-Myers Squibb Company

P.O. Box 4000, Route 206 & Province Line Road, Princeton, New Jersey 08543-4000
Attention: Vice President, Business Development

With a copy to: Bristol-Myers Squibb Company, P.O. Box 4000
Route 206 & Province Line Road, Princeton, New Jersey 08543-4000
Attention: Vice President & Assistant General Counsel, Business Development and Licensing

Novartis Institutes for BioMedical Research, Inc.

250 Massachusetts Avenue Cambridge, MA 02139 USA
Attn.: General Counsel

SBI JI Innovation Fund Limited Partnership

Ackerstein Towers B 3rd floor, 11 Hamanofim Street, Herzliya Pituach, 4672562 Israel
Attention: Mr. David Benami
Telephone: +972 52 3678910
Email: david@sbi-ji.co.il

With a copy to:

Attention: Mr. Yusuke Inaba
Telephone: + 972-50-9059742
Email: yusuke@sbi-ji.co.il

Minick Family Trust
774 Mays Blvd Suite 10-510, Incline Village, NV 89451, US
scott1minick@gmail.com

Mark Cohen
[XXX]
[XXX]

Eddy Shalev

[XXX]
[XXX]

IB Landav Holdings LLC

756 Warren St. Westfield NJ 07090, US
ellkay18@gmail.com; david.a.crenshaw@icloud.com
Attention: Lance Kaplan; David Crenshaw

IBF Investors LLC

801 Key Highway, #110 Baltimore, MD 21230, US
bsholk@axcelpartners.com
Attention: Bruce Sholk

Novit, LP (US Pharmacia)

966 Hungerford Dr. Ste. 3B Rockville MD 20850, US
k.kusmierz@uspiusa.com
Attention: Kasia Kusmierz

Fridator Trust No. 4

40 rue de Geneve, CP 471, 1225 Chene-Bourg, Switzerland
mark@kernohan.ch
Attention: Mark Kernohan

Erongo Ltd.

2nd Floor, O'Neal Marketing Associates Building, Wickham Cay II PO Box 3174 Road Town Tortola BVI
jbroll@catalyst.co.za; ari@ciderinvestments.com; jacqueline.brosi@earlfiduciary.com
Attention: Jonathan Broll; Ari Fried; Jacqueline Brosi

Arc Group Ventures LLC

655 Third Avenue, 28th Floor NY NY 10017, US
isusmano@arcny.com; korff@arcny.com; rpayne@arcny.com
Attention: Irene Susmano; Joseph Korf; Rachel Payne

SCHEDULE B
NAME AND CONTACT OF KEY HOLDERS

Roni Mamluk
[XXX]
[XXX]

AYALA PHARMACEUTICALS, INC.

AMENDMENT NO. 1
TO
AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

This Amendment No. 1 to Amended and Restated Investors' Rights Agreement (this "***Amendment***"), is made and entered into as of May 3, 2020, by and among Ayala Pharmaceuticals, Inc., a Delaware corporation (the "***Company***"), and the Investors signatory hereto.

WHEREAS, the Company, the Investors signatory hereto and other Investors entered into that certain Amended and Restated Investors' Rights Agreement, dated as of December 19, 2018 (the "***Agreement***");

WHEREAS, pursuant to Section 6.6 of the Agreement, the Agreement may be amended by written agreement of the Company, the Required Holders and the Key Holders holding at least a majority of the Registrable Securities held by the Key Holders;

WHEREAS, the Investors signatory hereto constitute the Required Holders and the Key Holders signatory hereto hold at least a majority of the Registrable Securities held by the Key Holders; and

WHEREAS, the parties hereto desire to amend the Agreement as set forth herein.

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto hereby covenant and agree as follows:

1. Capitalized Terms. Capitalized terms used herein and not otherwise defined herein shall have the respective meanings assigned to them in the Agreement.

2. Amendments.

(a) Section 1.10 of the Agreement is hereby amended and restated in its entirety to read as follows:

"1.10 "Excluded Registration" means (i) a registration relating to the sale or grant of securities to employees of the Company or a subsidiary pursuant to a stock option, stock purchase, equity incentive or similar plan; (ii) a registration relating to an SEC Rule 145 transaction; (iii) a registration on any form that does not include substantially the same information as would be required to be included in a registration statement covering the sale of the Registrable Securities; (iv) a registration in which the only Common Stock being registered is Common Stock issuable upon conversion of debt securities that are also being registered; or (v) a registration relating to the IPO."

(b) Effective upon the consummation of the IPO, Section 1.19 of the Agreement is hereby amended and restated in its entirety to read as follows:

"1.19 "Key Holder Registrable Securities" means (i) the shares of Common Stock held of record by the Key Holders on May 3, 2020 or acquired by the Key Holders from the Company after May 3, 2020; and (ii) any Common Stock issued as (or issuable upon the conversion or exercise of any warrant, right, or other security that is issued as) a dividend or other distribution with respect to, or in exchange for or in replacement of such shares. Shares held of record or acquired by a trustee under an incentive or benefit plan of the Company for the benefit of a Key Holder shall, for purposes of this Agreement, be deemed to be held of record or acquired by such Key Holder."

(c) Effective upon the consummation of the IPO, Section 1.25 of the Agreement is hereby amended and restated in its entirety to read as follows:

"1.25 "Registrable Securities" means (i) the Common Stock issuable or issued upon conversion of the Preferred Stock; (ii) any Common Stock, or any Common Stock issued or issuable (directly or indirectly) upon conversion and/or exercise of any other securities of the Company, held of record by the Investors on May 3, 2020 or acquired by the Investors from the Company after May 3, 2020; (iii) the Key Holder Registrable Securities, provided, however, that such Key Holder Registrable Securities shall not be deemed Registrable Securities, and the Key Holders shall not be deemed Holders for the purposes of Subsections 2.1, 2.10, 3.1, 3.2, 4.1 and 6.6; and (iv) any Common Stock issued as (or issuable upon the conversion or exercise of any warrant, right, or other security that is issued as) a dividend or other distribution with respect to, or in exchange for or in replacement of, the shares referenced in clauses (i) and (ii) above; excluding in all cases, however, any Registrable Securities sold by a Person in a transaction in which the applicable rights under this Agreement are not assigned pursuant to Subsection 6.1, and excluding for purposes of Section 2 any shares for which registration rights have terminated pursuant to Subsection 2.13 of this Agreement."

(d) Section 6.5 of the Agreement is hereby amended and restated in its entirety to read as follows:

"6.5. Notices.

(a) All notices, requests and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given, delivered and received upon the earlier of actual receipt or: (i) upon personal delivery to the party to be notified; (ii) when sent, if sent by electronic mail or facsimile (with electronic confirmation of delivery) during the recipient's normal business hours, and if not sent during normal business hours, then on the recipient's next business day; (iii) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid; or (iv) one

(1) business day after the business day of deposit with a nationally recognized overnight courier, freight prepaid, specifying next-day delivery, with written verification of receipt. All communications shall be sent to the respective parties at their addresses as set forth on Schedule A or Schedule B (as applicable) hereto or to the principal office of the Company and to the attention of the Chief Executive Officer, in the case of the Company, or to such electronic mail address, facsimile number, or address as subsequently modified by written notice given in accordance with this Subsection 6.5. If notice is given to the Company, a copy (which shall not constitute notice) shall also be sent to Haim Gueta, Adv., at Meitar Liquornik Geva Leshem Tal, Law Offices, 16 Abba Hillel Silver Rd., Ramat-Gan, Israel, 5250608.

(b) Each Investor consents to the delivery of any stockholder notice pursuant to the General Corporation Law of the State of Delaware (the "DGCL"), as amended or superseded from time to time, by electronic transmission pursuant to Section 232 of the DGCL (or any successor thereto) at the electronic mail address or the facsimile number set forth below such Investor's name on Schedule A hereto, as updated from time to time by notice to the Company, or as on the books and records of the Company. Each Investor agrees to promptly notify the Company of any change in such stockholder's electronic mail address, and that failure to do so shall not affect the foregoing."

3. No Further Amendment. Except as expressly amended hereby, the Agreement is in all respects ratified and confirmed and all of the terms and conditions and provisions thereof shall remain in full force and effect. This Amendment is limited precisely as written and, except as set forth in Section 2 of this Amendment, shall not be deemed to be an amendment to any other term or condition of the Agreement or any of the documents referred to therein. In the event of a conflict between the terms of the Agreement and the terms of this Amendment, the terms of this Amendment shall control.

4. Effect of Amendment. This Amendment shall form a part of the Agreement for all purposes, and each party thereto and hereto shall be bound hereby. From and after the execution of this Amendment by the parties hereto, any reference in the Agreement to "this Agreement," "hereof," "herein," "hereunder" and words or expressions of similar import shall be deemed a reference to the Agreement as amended hereby. Upon execution of this Amendment by the Company and the Required Holders, this Amendment shall be binding on all parties to the Agreement, regardless of whether such party has consented to this Amendment.

5. Governing Law. This Amendment and any controversy arising out of or relating to this Amendment shall be governed by and construed in accordance with the internal laws of the State of Delaware, without regard to conflict of law principles that would result in the application of any law other than the law of the State of Delaware.

6. Captions. All articles and section headings or captions contained in this Amendment are inserted only as a matter of convenience and for reference and in no way define, limit, extend or describe the scope of this Amendment or the intent of any provision thereof.

7. Severability. If any provision of this Amendment or application to any party or circumstance shall be determined by any court of competent jurisdiction to be invalid or unenforceable to any extent, the remainder of this Amendment or the application of such provision to any other party or circumstances shall not be affected thereby, and each provision shall be valid and shall be enforced to the fullest extent permitted by law.

8. Counterparts; Execution. This Amendment may be executed in counterparts, each of which so executed shall be deemed to be an original, and all of which together shall constitute one instrument. Delivery or acceptance of this Amendment or any portion thereof by facsimile transmission or digitally, or in any electronic fashion or other transmission method (including without limitation, pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com), shall have the same effect as if delivered personally and any such transmission signature, initial or notation, shall have the same effect as if it were an original and shall be binding upon the maker thereof.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, each of the undersigned has executed this Amendment No. 1 to Amended and Restated Investors' Rights Agreement as of the date first written above.

COMPANY:

AYALA PHARMACEUTICALS, INC.

By: /s/ Roni Mamluk
Name: Roni Mamluk
Title: Chief Executive Officer

[Signature Page to Amendment No. 1 to Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, each of the undersigned has executed this Amendment No. 1 to Amended and Restated Investors' Rights Agreement as of the date first written above.

KEY HOLDERS:

/s/ Roni Mamluk
Roni Mamluk

[Signature Page to Amendment No. 1 to Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, each of the undersigned has executed this Amendment No. 1 to Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTORS:

Israel Biotech Fund I, L.P

By its general partner:

Israel Biotech Fund GP Partners, L.P.

By its general partner:

I.B.F. Management, Ltd.

By: /s/ Yuval Cabilly
Yuval Cabilly, Director & CEO

[Signature Page to Amendment No. 1 to Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, each of the undersigned has executed this Amendment No. 1 to Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTORS:

aMoon 2 Fund Limited Partnership

By: /s/ Yair C. Schindel
Name: Yair C. Schindel
Title: Managing Partner

[Signature Page to Amendment No. 1 to Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, each of the undersigned has executed this Amendment No. 1 to Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTORS:

Harel Insurance Company Ltd.

By: /s/ Natalie Mishan Zakai
/s/ Arik Peretz
Name: Natalie Mishan Zakai, General Counsel
Arik Peretz, CFO
Title:

[Signature Page to Amendment No. 1 to Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, each of the undersigned has executed this Amendment No. 1 to Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTORS:

Bristol-Myers Squibb Company

By: /s/ Robert Merriman
Name: Robert Merriman
Title: Executive Director, Business Development

[Signature Page to Amendment No. 1 to Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, each of the undersigned has executed this Amendment No. 1 to Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTORS:

SBI JI Innovation Fund Limited Partnership

By: /s/ Yusuke Inaba
ID Number:
Title: Director of GP

[Signature Page to Amendment No. 1 to Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, each of the undersigned has executed this Amendment No. 1 to Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTORS:

Novartis Institutes for BioMedical Research, Inc.

By: _____
Name:
Title:

[Signature Page to Amendment No. 1 to Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, each of the undersigned has executed this Amendment No. 1 to Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTORS:

Minick Family Trust

By: _____
Name:
Title:

[Signature Page to Amendment No. 1 to Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, each of the undersigned has executed this Amendment No. 1 to Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTORS:

IB Landav Holdings LLC

By: _____
Name:
Title:

[Signature Page to Amendment No. 1 to Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, each of the undersigned has executed this Amendment No. 1 to Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTORS:

_____

Mark Cohen

[Signature Page to Amendment No. 1 to Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, each of the undersigned has executed this Amendment No. 1 to Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTORS:

_____

Eddy Shalev

[Signature Page to Amendment No. 1 to Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, each of the undersigned has executed this Amendment No. 1 to Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTORS:

IBF Investors LLC

By: _____
Name:
Title:

[Signature Page to Amendment No. 1 to Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, each of the undersigned has executed this Amendment No. 1 to Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTORS:

Novit, LP (US Pharmacia)

By: _____
Name:
Title:

[Signature Page to Amendment No. 1 to Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, each of the undersigned has executed this Amendment No. 1 to Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTORS:

Fridator Trust No. 4

By: _____
Name:
Title:

[Signature Page to Amendment No. 1 to Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, each of the undersigned has executed this Amendment No. 1 to Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTORS:

Erongo Ltd.

By: _____
Name:
Title:

[Signature Page to Amendment No. 1 to Amended and Restated Investors' Rights Agreement]

IN WITNESS WHEREOF, each of the undersigned has executed this Amendment No. 1 to Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTORS:

Arc Group Ventures LLC

By: _____
Name:
Title:

[Signature Page to Amendment No. 1 to Amended and Restated Investors' Rights Agreement]

Exhibit 4.2


NUMBER
API
SHARES
AYALA PHARMACEUTICALS, INC.
COMMON STOCK
INCORPORATED UNDER THE LAWS OF THE STATE OF DELAWARE
CUSIP 05465Y 10 8
SEE REVERSE FOR CERTAIN DEFINITIONS
THIS CERTIFIES THAT
SPECIMEN
is the owner of
FULLY PAID AND NON-ASSESSABLE SHARES OF COMMON STOCK OF THE PAR VALUE OF $0.01 PER SHARE OF
AYALA PHARMACEUTICALS, INC.
transferable on the books of the Corporation by the holder hereof in person or by duly authorized Attorney, upon surrender of this Certificate properly endorsed.
This Certificate is not valid until countersigned and registered by the Transfer Agent and Registrar.
WITNESS the facsimile signatures of the Corporation's duly authorized officers.
Dated:
SPECIMEN COMMON STOCK
CHIEF EXECUTIVE OFFICER
CHIEF FINANCIAL OFFICER
COUNTERSIGNED AND REGISTERED:
AMERICAN STOCK TRANSFER & TRUST COMPANY, LLC
(BROOKLYN, NY)
TRANSFER AGENT AND REGISTRAR
BY:
AUTHORIZED SIGNATURE
SECURITY-COLUMBIAN UNITED STATES BANKNOTE COMPANY 1640

The following abbreviations, when used in the inscription on the face of this certificate, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM	**—**	**as tenants in common**	**UNIF GIFT MIN ACT —**	_____ (Cust)	**Custodian** _____ (Minor)
TEN ENT	**—**	**as tenants by the entireties**			
JT TEN	**—**	**as joint tenants with right of survivorship and not as tenants in commom**		**under Uniform Gifts to Minors Act** _____ (State)	

Additional abbreviations may also be used though not in the above list.

FOR VALUE RECEIVED, _____ hereby sell, assign and transfer unto

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER OF ASSIGNEE

_____

(PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS, INCLUDING ZIP CODE, OF ASSIGNEE)

_____

_____

_____ Shares

of the common stock represented by the within Certificate, and do hereby irrevocably constitute and appoint

_____ Attorney

to transfer the said stock on the books of the within-named Corporation, with full power of substitution in the premises.

Dated _____

NOTICE: _____

THE SIGNATURE TO THIS ASSIGNMENT MUST CORRESPOND WITH THE NAME AS WRITTEN UPON THE FACE OF THE CERTIFICATE IN EVERY PARTICULAR, WITHOUT ALTERATION OR ENLARGEMENT OR ANY CHANGE WHATEVER.

Signature(s) Guaranteed:

_____

THE SIGNATURE(S) SHOULD BE GUARANTEED BY AN ELIGIBLE GUARANTOR INSTITUTION (BANKS, STOCKBROKERS, SAVINGS AND LOAN ASSOCIATIONS AND CREDIT UNIONS WITH MEMBERSHIP IN AN APPROVED SIGNATURE GUARANTEE MEDALLION PROGRAM), PURSUANT TO S.E.C. RULE 17Ad-15.

Exhibit 5.1

200 Clarendon Street
Boston, Massachusetts 02116
Tel: +1.617.948.6000 Fax: +1.617.948.6001
www.lw.com

LATHAM & WATKINS LLP

FIRM / AFFILIATE OFFICES

Beijing	Moscow
Boston	Munich
Brussels	New York
Century City	Orange County
Chicago	Paris
Dubai	Riyadh
Düsseldorf	San Diego
Frankfurt	San Francisco
Hamburg	Seoul
Hong Kong	Shanghai
Houston	Silicon Valley
London	Singapore
Los Angeles	Tokyo
Madrid	Washington, D.C.
Milan	

May 4, 2020

Ayala Pharmaceuticals, Inc.
Oppenheimer 4
Rehovot 7670104, Israel

Re: Registration Statement No. 333-236942;
$61,333,344 of shares of Common Stock, $0.01 par value per share

Ladies and Gentlemen:

We have acted as special counsel to Ayala Pharmaceuticals, Inc., a Delaware corporation (the "***Company***"), in connection with the proposed issuance of up to $61,333,344 of shares (including shares subject to the underwriters' option to purchase additional shares) of common stock, $0.01 par value per share (the "***Shares***"). The Shares are included in a registration statement on Form S–1 under the Securities Act of 1933, as amended (the "***Act***"), filed with the Securities and Exchange Commission (the "***Commission***") on March 6, 2020 (Registration No. 333-236942) (as amended, the "***Registration Statement***"). The term "Shares" shall include any additional shares of common stock registered by the Company pursuant to Rule 462(b) under the Act in connection with the offering contemplated by the Registration Statement. This opinion is being furnished in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement or related Prospectus, other than as expressly stated herein with respect to the issue of the Shares.

As such counsel, we have examined such matters of fact and questions of law as we have considered appropriate for purposes of this letter. With your consent, we have relied upon certificates and other assurances of officers of the Company and others as to factual matters without having independently verified such factual matters. We are opining herein as to the General Corporation Law of the State of Delaware and we express no opinion with respect to any other laws.

Subject to the foregoing and the other matters set forth herein, it is our opinion that, as of the date hereof, when the Shares shall have been duly registered on the books of the transfer agent and registrar therefor in the name or on behalf of the purchasers, and have been issued by

the Company against payment therefor (not less than par value) in total numbers that do not exceed the total number of shares available under the Company's certificate of incorporation and in the circumstances contemplated by the form of underwriting agreement most recently filed as an exhibit to the Registration Statement, the issue and sale of the Shares will have been duly authorized by all necessary corporate action of the Company, and the Shares will be validly issued, fully paid and nonassessable. In rendering the foregoing opinion, we have assumed that the Company will comply with all applicable notice requirements regarding uncertificated shares provided in the General Corporation Law of the State of Delaware.

This opinion is for your benefit in connection with the Registration Statement and may be relied upon by you and by persons entitled to rely upon it pursuant to the applicable provisions of the Act. We consent to your filing this opinion as an exhibit to the Registration Statement and to the reference to our firm in the Prospectus under the heading "Legal Matters." We further consent to the incorporation by reference of this letter and consent into any registration statement filed pursuant to Rule 462(b) with respect to the Shares. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ LATHAM & WATKINS LLP

Exhibit 10.1

AYALA PHARMACEUTICALS, INC.

2017 STOCK INCENTIVE PLAN

(as amended and restated [_____], 2020)

Unless otherwise defined, terms used herein shall have the meaning ascribed to them in Section 2 hereof.

1. PURPOSE; TYPES OF AWARDS; CONSTRUCTION.

1.1. Purpose. The purpose of this 2017 Stock Incentive Plan (as amended, this "Plan") is to afford an incentive to Service Providers of Ayala Pharmaceuticals, Inc., a corporation incorporated under the laws of the State of Delaware (together with any successor corporation thereto, the "Company"), or any Affiliate of the Company, which now exists or hereafter is organized or acquired by the Company or its Affiliates, to continue as Service Providers, to increase their efforts on behalf of the Company or its Affiliates and to promote the success of the Company's business, by providing such Service Providers with opportunities to acquire a proprietary interest in the Company by the issuance of Shares or restricted Shares ("Restricted Stock") of the Company, and by the grant of options to purchase Shares ("Options"), Restricted Stock Units ("RSUs") and other Share-based Awards pursuant to Sections 11 through 13 of this Plan. In addition, Awards may be granted to Service Providers under this Plan as donations, for any purpose that the Board finds appropriate, at its discretion.

1.2. Types of Awards. This Plan is intended to enable the Company to issue Awards under various tax regimes, including:

(i) pursuant and subject to the provisions of Section 102 of the Ordinance (or the corresponding provision of any subsequently enacted statute, as amended from time to time), and all regulations and interpretations adopted by any competent authority, including the Israeli Income Tax Authority (the "ITA"), including the Income Tax Rules (Tax Benefits in Stock Issuance to Employees) 5763-2003 or such other rules so adopted from time to time (the "Rules") (such Awards that are intended to be (as set forth in the Award Agreement) and which qualify as such under Section 102 of the Ordinance and the Rules, "102 Awards");

(ii) pursuant to Section 3(9) of the Ordinance or the corresponding provision of any subsequently enacted statute, as amended from time to time (such Awards, "3(9) Awards");

(iii) Incentive Stock Options within the meaning of Section 422 of the Code, or the corresponding provision of any subsequently enacted United States federal tax statute, as amended from time to time, to be granted to Employees who are deemed to be residents of the United States, for purposes of taxation, or are otherwise subject to U.S. Federal income tax (such Awards that are intended to be (as set forth in the Award Agreement) and which qualify as an incentive stock option within the meaning of Section 422(b) of the Code, "Incentive Stock Options"); and

(iv) Awards not intended to be (as set forth in the Award Agreement) or which do not qualify as an Incentive Stock Option ("Nonqualified Stock Options").

In addition to the issuance of Awards under the relevant tax regimes in the United States of America and the State of Israel, and without derogating from the generality of Section 25, this Plan contemplates issuances to Grantees in other jurisdictions or under other tax regimes with respect to which the Committee is empowered, but is not required, to make the requisite adjustments in this Plan and set forth the relevant conditions in an appendix to this Plan or in the Company's agreement with the Grantee in order to comply with the requirements of such other tax regimes.

1.3. Company Status. This Plan contemplates the issuance of Awards by the Company, both as a private and public company.

1.4. Construction. To the extent any provision herein conflicts with the conditions of any relevant tax law, rule or regulation which are relied upon for tax relief in respect of a particular Award to a Grantee, the Committee is empowered, but is not required, hereunder to determine that the provisions of such law, rule or regulation shall prevail over those of this Plan and to interpret and enforce such prevailing provisions.

2. DEFINITIONS.

2.1. Terms Generally. Except when otherwise indicated by the context, (i) the singular shall include the plural and the plural shall include the singular; (ii) any pronoun shall include the corresponding masculine, feminine and neuter forms; (iii) any definition of or reference to any agreement, instrument or other document herein shall be construed as referring to such agreement, instrument or other document as from time to time amended, restated, supplemented or otherwise modified (subject to any restrictions on such amendments, restatements, supplements or modifications set forth therein or herein), (iv) references to any law, constitution, statute, treaty, regulation, rule or ordinance, including any section or other part thereof shall refer to it as amended from time to time and shall include any successor thereof, (v) reference to a "company" or "entity" shall include a, partnership, corporation, limited liability company, association, trust, unincorporated organization, or a government or agency or political subdivision thereof, and reference to a "person" shall mean any of the foregoing or an individual, (vi) the words "herein", "hereof" and "hereunder", and words of similar import, shall be construed to refer to this Plan in its entirety, and not to any particular provision hereof, (vii) all references herein to Sections shall be construed to refer to Sections to this Plan; (viii) the words "include", "includes" and "including" shall be deemed to be followed by the phrase "without limitation"; and (ix) use of the term "or" is not intended to be exclusive.

2.2. Defined Terms. The following terms shall have the meanings ascribed to them in this Section 2:

2.3. "Affiliate" shall mean, (i) with respect to any person, any other person that, directly or indirectly through one or more intermediaries, controls, is controlled by, or is under common control with, such person (with the term "control" or "controlled by" within the meaning of Rule

405 of Regulation C under the Securities Act), including, without limitation, any Parent or Subsidiary, or (ii) for the purpose of 102 Awards, "Affiliate" shall only mean an "employing company" within the meaning and subject to the conditions of Section 102(a) of the Ordinance.

2.5. "Applicable Law" shall mean any applicable law, rule, regulation, statute, pronouncement, policy, interpretation, judgment, order or decree of any federal, provincial, state or local governmental, regulatory or adjudicative authority or agency, of any jurisdiction, and the rules and regulations of any stock exchange, over-the-counter market or trading system on which the Company's shares of capital stock are then traded or listed.

2.6. "Award" shall mean any Option, Restricted Stock, RSUs or any other Share-based award granted under this Plan.

2.7. "Board" shall mean the Board of Directors of the Company.

2.8. "Code" shall mean the United States Internal Revenue Code of 1986, and any applicable regulations promulgated thereunder, all as amended.

2.9. "Committee" shall mean a committee established or appointed by the Board to administer this Plan, subject to Section 3.1. To the extent required to comply with the provisions of Rule 16b-3 of the Exchange Act, it is intended that each member of the Committee will be, at the time the Committee takes any action with respect to an Award that is subject to Rule 16b-3 of the Exchange Act, a "non-employee director" within the meaning of Rule 16b-3 of the Exchange Act; however, a Committee member's failure to qualify as a "non-employee director" within the meaning of Rule 16b-3 of the Exchange Act will not invalidate any Award granted by the Committee that is otherwise validly granted under the Plan.

2.10. "Controlling Stockholder" shall have the meaning set forth in Section 32(9) of the Ordinance.

2.11. "Disability" shall mean (i) the inability of a Grantee to engage in any substantial gainful activity or to perform the major duties of the Grantee's position with the Company or its Affiliates by reason of any medically determinable physical or mental impairment which has lasted or can be expected to last for a continuous period of not less than 12 months (or such other period as determined by the Committee), as determined by a qualified doctor acceptable to the Company, (ii) if applicable, a "permanent and total disability" as defined in Section 22(e)(3) of the Code or Section 409A(a)(2)(c)(i) of the Code, as amended from time to time, or (iii) as defined in a policy of the Company that the Committee deems applicable to this Plan, or that makes reference to this Plan, for purposes of this definition.

2.12. "Employee" shall mean any person treated as an employee (including an officer or a director who is also treated as an employee) in the records of the Company or any of its Affiliates (and in the case of 102 Awards, subject to Section 9.3 or in the case of Incentive Stock Options, who is an employee for purposes of Section 422 of the Code); provided, however, that neither service as a director nor payment of a director's fee shall be sufficient to constitute employment for purposes of this Plan. The Company shall determine in good faith and in the exercise of its discretion whether an individual has become or has ceased to be an Employee and the effective date of such individual's employment or termination of employment, as the case may be. For

purposes of a person's rights, if any, under this Plan as of the time of the Company's determination, all such determinations by the Company shall be final, binding and conclusive, notwithstanding that the Company or any court of law or governmental agency subsequently makes a contrary determination.

2.13. "employment", "employed" and words of similar import shall be deemed to refer to the employment of Employees or to the services of any other Service Provider, as the case may be.

2.14. "Exchange Act" shall mean the U.S. Securities Exchange Act of 1934, as amended, and all regulations, guidance and other interpretative authority issued thereunder.

2.15. "exercise", "exercised" and words of similar import, when referring to an Award that does not require exercise or that is settled upon vesting (such as may be the case with RSUs or Restricted Stock, if so determined in their terms), shall be deemed to refer to the vesting of such an Award (regardless of whether or not the wording included reference to vesting of such an Awards explicitly).

2.16. "Exercise Period" shall mean the period, commencing on the date of grant of an Award, during which an Award shall be exercisable, subject to any vesting provisions thereof (including any acceleration thereof, if any) and subject to the termination provisions hereof.

2.17. "Exercise Price" shall mean the exercise price for each Share covered by an Option or the purchase price for each Share covered by any other Award.

2.18. "Fair Market Value" shall mean, as of any date, the value of a Share or other property as determined by the Board, in its discretion, subject to the following: (i) if, on such date, the Shares are listed on any securities exchange, the closing sales price per Share on which the Shares are principally traded on such date, or if no sale occurred on such date, the last day preceding such date during which a sale occurred, as reported in The Wall Street Journal or such other source as the Company deems reliable; (ii) if, on such date, the Shares are then quoted in an over-the-counter market, the average of the closing bid and asked prices for the Shares in that market on such date, or if there are no bid and asked prices on such date, the last day preceding such date on which there are bid and asked prices, as reported in The Wall Street Journal or such other source as the Company deems reliable; or (iii) if, on such date, the Shares are not then listed on a securities exchange or quoted in an over-the-counter market, or in case of any other property, such value as the Committee, in its sole discretion, shall determine, with full authority to determine the method for making such determination and which determination shall be conclusive and binding on all parties, and shall be made after such consultations with outside legal, accounting and other experts as the Committee may deem advisable; provided, however, that, if applicable, the Fair Market Value of the Shares shall be determined in a manner that satisfies the applicable requirements of and subject to Section 409A of the Code, and with respect to Incentive Stock Options, in a manner that satisfies the applicable requirements of and subject to Section 422 of the Code, subject to Section 422(c)(7) of the Code. The Committee shall maintain a written record of its method of determining such value. If the Shares are listed or quoted on more than one established stock exchange or over-the-counter market, the Committee shall determine the principal such exchange or market and utilize the price of the Shares on that exchange or market (determined as per the method described in clauses (i) or (ii) above, as applicable) for the purpose of determining Fair Market Value.

2.19. "Grantee" shall mean a person who has been granted an Award(s) under this Plan.

2.20. "Ordinance" shall mean the Israeli Income Tax Ordinance (New Version) 1961, and the regulations and rules (including the Rules) promulgated thereunder, all as amended from time to time.

2.21. "Parent" shall mean any company (other than the Company), which now exists or is hereafter organized, (i) in an unbroken chain of companies ending with the Company if, at the time of granting an Award, each of the companies (other than the Company) owns stock possessing fifty percent (50%) or more of the total combined voting power of all classes of stock in one of the other companies in such chain, or (ii) if applicable and for purposes of Incentive Stock Options, that is a "parent corporation" of the Company, as defined in Section 424(e) of the Code.

2.22. "Retirement" shall mean a Grantee's retirement pursuant to Applicable Law or in accordance with the terms of any tax-qualified retirement plan maintained by the Company or any of its Affiliates in which the Grantee participates or is subject to.

2.23. "Securities Act" shall mean the U.S. Securities Act of 1933, and the rules and regulations promulgated thereunder, all as amended from time to time.

2.24. "Service Provider" shall mean an Employee, director, officer, consultant, advisor and any other person or entity who provides services to the Company or any Parent, Subsidiary or other Affiliate thereof. Service Providers shall include prospective Service Providers to whom Awards are granted in connection with written offers of an employment or other service relationship with the Company or any Parent, Subsidiary or any other Affiliates thereof, provided, however, that such employment or service shall have actually commenced. Notwithstanding the foregoing, unless otherwise determined by the Committee, each Service Provider shall be an "employee" as defined in the General Instructions to Form S-8 Registration Statement under the Securities Act (or any successor form thereto).

2.25. "Share(s)" shall mean share(s) of Common Stock, par value $ 0.01 of the Company (as adjusted for stock split, reverse stock split, bonus shares, combination or other recapitalization events), or shares of such other class of stock of the Company as shall be designated by the Board in respect of the relevant Award(s). "Shares" include any securities or property issued or distributed with respect thereto.

2.26. "Subsidiary" shall mean any company (other than the Company), which now exists or is hereafter organized or acquired by the Company, (i) in an unbroken chain of companies beginning with the Company if, at the time of granting an Award, each of the companies other than the last company in the unbroken chain owns stock possessing fifty percent (50%) or more of the total combined voting power of all classes of stock in one of the other companies in such chain, or (ii) if applicable and for purposes of Incentive Stock Options, that is a "subsidiary corporation" of the Company, as defined in Section 424(f) of the Code.

2.27. "Ten Percent Stockholder" shall mean a Grantee who, at the time an Award is granted to the Grantee, owns stock possessing more than ten percent (10%) of the total combined voting power of all classes of stock of the Company or any Parent or Subsidiary, within the meaning of Section 422(b)(6) of the Code.

2.28. "Trustee" shall mean the trustee appointed by the Committee to hold the Awards (and, in relation with 102 Awards, approved by the ITA), if so appointed.

2.29. Other Defined Terms. The following terms shall have the meanings ascribed to them in the Sections set forth below:

Term	Section
102 Awards	1.2(i)
102 Capital Gains Track Awards	9.1
102 Non-Trustee Awards	9.2
102 Ordinary Income Track Awards	9.1
102 Trustee Awards	9.1
3(9) Awards	1.2(ii)
Award Agreement	6
Cause	6.6.4.4
Charter Documents	3.1
Company	1.1
Effective Date	24.1
Election	9.2
Eligible 102 Grantees	9.3.1
Incentive Stock Options	1.2(iii)
ITA	1.1(i)
Market Stand-Off	17.1
Market Stand-Off Period	17.1
Merger/Sale	14.2
Nonqualified Stock Options	1.2(iv)
Plan	1.1
Recapitalization	14.1
Required Holding Period	9.5
Restricted Period	11.2
Restricted Stock Agreement	11
Restricted Stock Unit Agreement	12
Restricted Stock	1.1
RSUs	1.1
Rules	1.1(i)
Securities	17.1
Stockholders Agreements	16.2
Successor Corporation	14.2.1
Withholding Obligations	18.5

3. ADMINISTRATION.

3.1. To the extent permitted under Applicable Law, the Company's Certificate of Incorporation, the Bylaws and any other governing document of the Company (collectively, as amended from time to time, the "Charter Documents"), this Plan shall be administered by the Committee. In the event that the Board does not appoint or establish a committee to administer this Plan, this Plan shall be administered by the Board and, accordingly, any and all references herein to the Committee shall be construed as references to the Board. In the event that an action necessary for the administration of this Plan is required under Applicable Law to be taken by the Board without the right of delegation, or if such action or power was explicitly reserved by the Board in appointing, establishing and empowering the Committee, then such action shall be so taken by the Board. In any such event, all references herein to the Committee shall be construed as references to the Board. Even if such a Committee was appointed or established, the Board may take any actions that are stated to be vested in the Committee, and shall not be restricted or limited from exercising all rights, powers and authorities under this Plan or Applicable Law.

3.2. The Board shall appoint the members of the Committee, may from time to time remove members from, or add members to, the Committee, and shall fill vacancies in the Committee, however caused, provided that the composition of the Committee shall at all times be in compliance with any mandatory requirements of Applicable Law or any Charter Documents. The Committee may select one of its members as its Chairman and shall hold its meetings at such times and places as it shall determine. The Committee may appoint a Secretary, who shall keep records of its meetings, and shall make such rules and regulations for the conduct of its business as it shall deem advisable and subject to mandatory requirements of Applicable Law.

3.3. Subject to the terms and conditions of this Plan, any mandatory provisions of Applicable Law and any provisions of any Company policy required under mandatory provisions of Applicable Law, and in addition to the Committee's powers contained elsewhere in this Plan, the Committee shall have full authority, in its discretion, from time to time and at any time, to determine any of the following, or to recommend to the Board any of the following if it is not authorized to take such action according to Applicable Law:

(i) eligible Grantees,

(ii) grants of Awards and setting the terms and provisions of Award Agreements (which need not be identical) and any other agreements or instruments under which Awards are made, including, but not limited to, the number of Shares underlying each Award and the class of Shares underlying each Award (if more than one class was designated by the Board),

(iii) the time or times at which Awards shall be granted,

(iv) the terms, conditions and restrictions applicable to each Award (which need not be identical) and any Shares acquired upon the exercise or (if applicable) vesting thereof, including, without limitation, (1) designating Awards under Section 1.2; (2) the vesting schedule, the acceleration thereof and terms and conditions upon which Awards may be exercised or become vested, (3) the Exercise Price, (4) the method of payment for Shares purchased upon the exercise or (if applicable) vesting of the Awards, (5) the method

for satisfaction of any tax withholding obligation arising in connection with the Awards or such Shares, including by the withholding or delivery of Shares, (6) the time of the expiration of the Awards, (7) the effect of the Grantee's termination of employment with the Company or any of its Affiliates, and (8) all other terms, conditions and restrictions applicable to the Award or the Shares not inconsistent with the terms of this Plan,

(v) to accelerate, continue, extend or defer the exercisability of any Award or the vesting thereof, including with respect to the period following a Grantee's termination of employment or other service,

(vi) the interpretation of this Plan and any Award Agreement and the meaning, interpretation and applicability of terms referred to in Applicable Law,

(vii) policies, guidelines, rules and regulations relating to and for carrying out this Plan, and any amendment, supplement or rescission thereof, as it may deem appropriate,

(viii) to adopt supplements to, or alternative versions of, this Plan, including, without limitation, as it deems necessary or desirable to comply with the laws of, or to accommodate the tax regime or custom of, foreign jurisdictions whose citizens or residents may be granted Awards,

(ix) the Fair Market Value of the Shares or other property,

(x) the tax track (capital gains, ordinary income track or any other track available under the Section 102 of the Ordinance) for the purpose of 102 Awards,

(xi) the authorization and approval of conversion, substitution, cancellation or suspension under and in accordance with this Plan of any or all Awards or Shares,

(xii) the amendment, modification, waiver or supplement of the terms of each outstanding Award (with the consent of the applicable Grantee, if such amendment materially and adversely affects the Grantee's rights under the Award (other than as a result of an adjustment or exercise of rights in accordance with Section 14)) unless otherwise provided under the terms of this Plan,

(xiii) without limiting the generality of the foregoing, and without stockholder approval, subject to the provisions of Applicable Law, to grant to a Grantee, who is the holder of an outstanding Award, in exchange for the cancellation of such Award, a new Award having an Exercise Price lower than that provided in the Award so canceled and containing such other terms and conditions as the Committee may prescribe in accordance with the provisions of this Plan or to set a new Exercise Price for the same Award lower than that previously provided in the Award,

(xiv) to correct any defect, supply any omission or reconcile any inconsistency in this Plan or any Award Agreement and all other determinations and take such other actions with respect to this Plan or any Award as it may deem advisable to the extent not inconsistent with the provisions of this Plan or Applicable Law, and

(xv) any other matter which is necessary or desirable for, or incidental to, the administration of this Plan and any Award thereunder.

3.4. The authority granted hereunder includes the authority to modify Awards to eligible individuals who are foreign nationals or are individuals who are employed outside the United States of America or the State of Israel to recognize differences in local law, tax policy or custom, in order to effectuate the purposes of this Plan but without amending this Plan.

3.5. The Board and the Committee shall be free at all times to make such determinations and take such actions as they deem fit. The Board and the Committee need not take the same action or determination with respect to all Awards, with respect to certain types of Awards, with respect to all Service Providers or any certain type of Service Providers and actions and determinations may differ as among the Grantees, and as between the Grantees and any other holders of securities of the Company.

3.6. All decisions, determinations, and interpretations of the Committee, the Board and the Company under this Plan shall be final and binding on all Grantees (whether before or after the issuance of Shares pursuant to Awards), unless otherwise determined by the Committee, the Board or the Company, respectively. The Committee shall have the authority (but not the obligation) to determine the interpretation and applicability of Applicable Law to any Grantee or any Awards. No member of the Committee or the Board shall be liable to any Grantee for any action taken or determination made in good faith with respect to this Plan or any Award granted hereunder.

3.7. Any officer or authorized signatory of the Company shall have the authority to act on behalf of the Company with respect to any matter, right, obligation, determination or election which is the responsibility of or which is allocated to the Company herein, provided such person has apparent authority with respect to such matter, right, obligation, determination or election. Such person or authorized signatory shall not be liable to any Grantee for any action taken or determination made in good faith with respect to this Plan or any Award granted hereunder.

4. ELIGIBILITY.

Awards may be granted to Service Providers of the Company or any Affiliate thereof, taking into account, at the Committee's discretion and without an obligation to do so, the qualification under each tax regime pursuant to which such Awards are granted, subject to the limitation on the granting of Incentive Stock Options set forth in Section 8.1. A person who has been granted an Award hereunder may be granted additional Awards, if the Committee shall so determine, subject to the limitations herein. However, eligibility in accordance with this Section 4 shall not entitle any person to be granted an Award, or, having been granted an Award, to be granted an additional Award.

Awards may differ in number of Shares covered thereby, the terms and conditions applying to them or on the Grantees or in any other respect (including, that there should not be any expectation (and it is hereby disclaimed) that a certain treatment, interpretation or position granted to one shall be applied to the other, regardless of whether or not the facts or circumstances are the same or similar).

5. SHARES.

5.1. The maximum aggregate number of Shares that may be issued pursuant to Awards under this Plan (the "Pool") shall be the sum of (i) 1,327,825 Shares; and (ii) an annual increase on the first day of each calendar year beginning January 1, 2021 and ending on and including January 1, 2030, equal to the lesser of (A) 4% of the aggregate number of shares of Common Stock outstanding on the final day of the immediately preceding calendar year and (B) such smaller number of Shares as is determined by the Board. However, except as adjusted pursuant to Section 14.1, in no event shall more than 7,550,000, as adjusted in accordance with Section 5.2, be available for issuance pursuant to the exercise of Incentive Stock Options.

5.2. Any Shares (a) underlying an Award granted hereunder that has expired, or was cancelled, terminated, forfeited or, repurchased or settled in cash in lieu of issuance of Shares, for any reason, without having been exercised; (b) if permitted by the Company, tendered to pay the Exercise Price of an Award, or withholding tax obligations with respect to an Award; or (c) if permitted by the Company, subject to an Award that are not delivered to a Grantee because such Shares are withheld to pay the Exercise Price of such Award, or withholding tax obligations with respect to such Award; shall automatically, and without any further action on the part of the Company or any Grantee, again be available for grant of Awards and Shares issued upon exercise of (if applicable) vesting thereof for the purposes of this Plan (unless this Plan shall have been terminated) or unless the Board determines otherwise. Such Shares may, in whole or in part, be authorized but unissued Shares, treasury stock (dormant shares) or otherwise Shares that shall have been or may be repurchased by the Company (to the extent permitted pursuant to Applicable Law).

5.3. Any Shares under the Pool that are not subject to outstanding or exercised Awards at the termination of this Plan shall cease to be reserved for the purpose of this Plan.

5.4. Notwithstanding any provision to the contrary in the Plan, the Committee may establish compensation for non-employee members of the Board from time to time, subject to the limitations in the Plan. The Committee will from time to time determine the terms, conditions and amounts of all such non-employee director compensation in its discretion and pursuant to the exercise of its business judgment, taking into account such factors, circumstances and considerations as it shall deem relevant from time to time, provided that the sum of any cash compensation, or other compensation, and the value (determined as of the grant date in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718, or any successor thereto) of Awards granted to a non-employee member of the Board as compensation for services as a non-employee member of the Board during any fiscal year of the Company may not exceed $600,000, increased to $900,000 in the fiscal year in which the Effective Date occurs or in the fiscal year of a non-employee member of the Board's initial service as a non-employee member of the Board. The Committee may make exceptions to this limit for individual non-employee members of the Board in extraordinary circumstances, as the Committee may determine in its discretion, provided that the non-employee member of the Board receiving such additional compensation may not participate in the decision to award such compensation or in other contemporaneous compensation decisions involving non-employee members of the Board.

6. TERMS AND CONDITIONS OF AWARDS.

Each Award granted pursuant to this Plan shall be evidenced by a written or electronic agreement between the Company and the Grantee or a written or electronic notice delivered by the Company (the "Award Agreement"), in substantially such form or forms and containing such terms and conditions, as the Committee shall from time to time approve. The Award Agreement shall comply with and be subject to the following general terms and conditions and the provisions of this Plan (except for any provisions applying to Awards under different tax regimes), unless otherwise specifically provided in such Award Agreement, or the terms referred to in other Sections of this Plan applying to Awards under such applicable tax regimes, or terms prescribed by Applicable Law. Award Agreements need not be in the same form and may differ in the terms and conditions included therein.

6.1. Number of Shares. Each Award Agreement shall state the number of Shares covered by the Award.

6.2. Type of Award. Each Award Agreement may state the type of Award granted thereunder, provided that the tax treatment of any Award, whether or not stated in the Award Agreement, shall be as determined in accordance with Applicable Law.

6.3. Exercise Price. Each Award Agreement shall state the Exercise Price, if applicable. Subject to Sections 3.3, 7.2 and 8.2 and to the foregoing, the Committee may without stockholder approval reduce the Exercise Price of any outstanding Award, on terms and subject to such conditions as it deems advisable. The Exercise Price shall also be subject to adjustment as provided in Section 14 hereof.

6.4. Manner of Exercise. An Award may be exercised, as to any or all Shares as to which the Award has become exercisable, by written notice delivered in person or by mail (or such other methods of delivery prescribed by the Company) to the Chief Financial Officer of the Company or to such other person as determined by the Committee, or in any other manner as the Committee shall prescribe from time to time, specifying the number of Shares with respect to which the Award is being exercised (which may be equal to or lower than the aggregate number of Shares that have become exercisable at such time, subject to the last sentence of this Section), accompanied by payment of the aggregate Exercise Price for such Shares in the manner specified in the following sentence. The Exercise Price shall be paid in full with respect to each Share, at the time of exercise, either in (i) cash, (ii) if the Company's shares are listed for trading on any securities exchange or over-the-counter market, and if the Committee so determines, all or part of the Exercise Price may be paid by the delivery (on a form prescribed by the Company) of an irrevocable direction to a securities broker approved by the Company to sell Shares and to deliver all or part of the sales proceeds to the Company or the Trustee, (iii) if the Company's stock is listed for trading on any securities exchange or over-the-counter market, and if the Committee so determines, all or part of the Exercise Price and any withholding taxes may be paid by the delivery (on a form prescribed by the Company) of an irrevocable direction to pledge Shares to a securities broker or lender approved by the Company, as security for a loan, and to deliver all or part of the loan proceeds to the Company or the Trustee, or (iv) in such other manner as the Committee shall determine, which may include procedures for cashless exercise. For as long as the Company's stock is not listed for trading on any securities exchange or over-the-counter market and unless the

Committee determines otherwise, a Grantee may not exercise Awards unless the aggregate Exercise Price thereof is equal to or in excess of the lower of: (a) the aggregate Exercise Price for all Shares as to which the Award has become exercisable at such time; or (b) US$2,000.

6.5. Term and Vesting of Awards.

6.5.1 Each Award Agreement shall provide the vesting schedule for the Award as determined by the Committee. The Committee shall have the authority to determine the vesting schedule and accelerate the vesting of any outstanding Award at such time and under such circumstances as it, in its sole discretion, deems appropriate. Unless otherwise resolved by the Committee and stated in the Award Agreement, and subject to Sections 6.6 and 6.7 hereof, Awards shall vest and become exercisable under the following schedule: twenty-five percent (25%) of the Shares covered by the Award, on the first anniversary of the vesting commencement date determined by the Committee (and in the absence of such determination, of date on which such Award was granted), and six and one-quarter percent (6.25%) of the Shares covered by the Award at the end of each subsequent three-month period thereafter over the course of the following three (3) years; provided that the Grantee remains continuously as a Service Provider of the Company or its Affiliates throughout such vesting dates.

6.5.2 The Award Agreement may contain performance goals and measurements (which, in case of 102 Awards, shall, if then required, be subject to obtaining a specific tax ruling or determination from the ITA), and the provisions with respect to any Award need not be the same as the provisions with respect to any other Award. Such performance goals may include, but are not limited to, sales, earnings before interest and taxes, return on investment, earnings per share, any combination of the foregoing or rate of growth of any of the foregoing, as determined by the Committee. The Committee may adjust performance goals pursuant to Awards previously granted to take into account changes in law and accounting and tax rules and to make such adjustments as the Committee deems necessary or appropriate to reflect the inclusion or the exclusion of the impact of extraordinary or unusual items, events or circumstances.

6.5.3 The Exercise Period of an Award will be ten (10) years from the date of grant of the Award, unless otherwise determined by the Committee and stated in the Award Agreement, but subject to the vesting provisions described above and the early termination provisions set forth in Sections 6.6 and 6.7 hereof. At the expiration of the Exercise Period, any Award, or any part thereof, that has not been exercised within the term of the Award and the Shares covered thereby not paid for in accordance with this Plan and the Award Agreement shall terminate and become null and void, and all interests and rights of the Grantee in and to the same shall expire.

6.6. Termination.

6.6.1 Unless otherwise determined by the Committee, and subject to this Section 6.6 and Section 6.7 hereof, an Award may not be exercised unless the Grantee is then a Service Provider of (i) the Company or an Affiliate thereof or, (ii) in the case of an Incentive Stock Option, of the Company, of a Parent or Subsidiary, or of a company (or a

parent or subsidiary company of such company) issuing or assuming an Option of such Grantee in a transaction to which Section 424(a) of the Code applies, and unless the Grantee has remained continuously so employed since the date of grant of the Award and throughout the vesting dates.

6.6.2 In the event that the employment or service of a Grantee shall terminate (other than by reason of death, Disability or Retirement), such that Grantee is no longer a Service Provider of neither the Company nor any Affiliate thereof), all Awards of such Grantee that are unvested at the time of such termination shall terminate on the date of such termination, and all Awards of such Grantee that are vested and exercisable at the time of such termination may be exercised within up to three (3) months after the date of such termination (or such different period as the Committee shall prescribe), but in any event no later than the date of expiration of the Award's term as set forth in the Award Agreement or pursuant to this Plan; provided, however, that if the Company (or the Subsidiary or other Affiliate thereof, as applicable) shall terminate the Grantee's employment or service for Cause (as defined below) or if at any time during the Exercise Period (whether prior to and after termination of employment or service, and whether or not the Grantee's employment or service is or has been terminated by either party as a result thereof), facts or circumstances arise or are discovered with respect to the Grantee that would have constituted Cause, all Awards theretofore granted to such Grantee (whether vested or not) shall terminate on the date of such termination (or on such subsequent date on which such facts or circumstances arise or are discovered, as the case may be) unless otherwise determined by the Committee; and any Shares issued upon exercise or (if applicable) vesting of Awards (including other Shares or securities issued or distributed with respect thereto), whether held by the Grantee or by the Trustee for the Grantee's benefit, shall be deemed to be irrevocably offered for sale to the Company, any of its Affiliates or any person designated by the Company to purchase, at the Company's election and subject to Applicable Law, either for no consideration, for the par value of such Shares (if shares bear a par value) or against payment of the Exercise Price previously received by the Company for such Shares upon their issuance, as the Committee deems fit, upon written notice to the Grantee at any time after the Grantee's termination of employment or service. Such Shares or other securities shall be sold and transferred within 30 days from the date of the Company's notice of its election to exercise its right. If the Grantee fails to transfer such Shares or other securities to the Company, the Company, at the decision of the Committee, shall be entitled to forfeit or repurchase such Shares and to authorize any person to execute on behalf of the Grantee any document necessary to effect such transfer, whether or not the stock certificates are surrendered. The Company shall have the right and authority to effect the above either by: (i) repurchasing all of such Shares or other securities held by the Grantee or by the Trustee for the benefit of the Grantee, or designate any other person who shall have the right and authority to purchase all of Such Shares or other securities, for the Exercise Price paid for such Shares, the par value of such Shares (if shares bear a par value) or for no payment or consideration whatsoever, as the Committee deems fit; (ii) forfeiting all such Shares or other securities; (iii) redeeming all such Shares or other securities, for the Exercise Price paid for such Shares, the par value of such Shares (if shares bear a par value) or for no payment or consideration whatsoever, as the Committee deems fit; (iv) taking action in order to have such Shares or other securities converted into deferred stock entitling their holder only to their par value (if shares bear a par value) upon liquidation of

the Company; or (v) taking any other action which may be required in order to achieve similar results; all as shall be determined by the Committee, at its sole and absolute discretion, and the Grantee is deemed to irrevocably empower the Company or any person which may be designated by it to take any action by, in the name of or on behalf of the Grantee to comply with and give effect to such actions (including, voting such stock, filling in, signing and delivering stock powers, etc.). For clarity, in the event that such Shares are not purchased as set forth above, any subsequent sale or disposition thereof shall be subject to provisions of this Plan, the Charter Documents and any Stockholders Agreements.

6.6.3 Notwithstanding anything to the contrary, the Committee, in its absolute discretion, may, on such terms and conditions as it may determine appropriate, extend the periods for which Awards held by any Grantee may continue to vest and be exercisable; it being clarified that such Awards may lose their entitlement to certain tax benefits under Applicable Law as a result of the modification of such Awards and/or in the event that the Award is exercised beyond the later of: (i) three (3) months after the date of termination of the employment or service relationship; or (ii) the applicable period under Section 6.7 below with respect to a termination of the employment or service relationship because of the death, Disability or Retirement of Grantee.

6.6.4 For purposes of this Plan:

6.6.4.1. a termination of employment or service of a Grantee shall not be deemed to occur (except to the extent required by the Code with respect to the Incentive Stock Option status of an Option) in case of (i) a transition or transfer of a Grantee among the Company and its Affiliates, (ii) a change in the capacity in which the Grantee is employed or renders service to the Company or any of its Affiliates or a change in the identity of the employing or engagement entity among the Company and its Affiliates, provided, in case of (i) and (ii) above, that the Grantee has remained continuously employed by and/or in the service of the Company and its Affiliates since the date of grant of the Award and throughout the vesting period; or (iii) if the Grantee takes any unpaid leave as set forth in Section 6.8(i) below.

6.6.4.2. An entity or an Affiliate thereof assuming an Award or issuing in substitution thereof in a transaction to which Section 424(a) of the Code applies or in a Merger/Sale in accordance with Section 14 shall be deemed as an Affiliate of the Company for purposes of this Section 6.6, unless the Committee determines otherwise.

6.6.4.3. In the case of a Grantee whose principal employer or service recipient is a Subsidiary or other Affiliate thereof, the Grantee's employment shall also be deemed terminated for purposes of this Section 6.6 as of the date on which such principal employer or service recipient ceases to be a Subsidiary or other Affiliate thereof.

6.6.4.4. The term "Cause" shall mean (irrespective of, and in addition to, any definition included in any other agreement or instrument applicable to the Grantee, and unless otherwise determined by the Committee) any of the following: (i) any theft, fraud, embezzlement, dishonesty, willful misconduct, breach of fiduciary duty for personal profit, falsification of any documents or records of the Company or any of its Affiliates, felony or

similar act by the Grantee (whether or not related to the Grantee's relationship with the Company); (ii) an act of moral turpitude by the Grantee, or any act that causes significant injury to, or is otherwise adversely affecting, the reputation, business, assets, operations or business relationship of the Company (or a Subsidiary or other Affiliate thereof, when applicable); (iii) any breach by the Grantee of any material agreement with or of any material duty of the Grantee to the Company or any Subsidiary or other Affiliate thereof (including breach of confidentiality, non-disclosure, non-use non-competition or non-solicitation covenants towards the Company or any of its Affiliates) or failure to abide by code of conduct or other policies (including, without limitation, policies relating to confidentiality and reasonable workplace conduct); (iv) any act which constitutes a breach of a Grantee's fiduciary duty towards the Company or a Subsidiary or other Affiliate thereof, including disclosure of confidential or proprietary information thereof or acceptance or solicitation to receive unauthorized or undisclosed benefits, irrespective of their nature, or funds, or promises to receive either, from individuals, consultants or corporate entities with whom the Company or a Subsidiary or other Affiliate thereof does business with; (v) the Grantee's unauthorized use, misappropriation, destruction, or diversion of any tangible or intangible asset or corporate opportunity of the Company or any of its Affiliates (including, without limitation, the improper use or disclosure of confidential or proprietary information); or (vi) any circumstances that constitute grounds for termination for cause under the Grantee's employment or service agreement with the Company or Affiliate, to the extent applicable. For the avoidance of doubt, the determination as to whether a termination is for Cause for purposes of this Plan, shall be made in good faith by the Committee and shall be final and binding on the Grantee.

6.7. Death, Disability or Retirement of Grantee.

6.7.1 If a Grantee shall die while employed by, or performing service for, the Company or any of its Affiliates, or within the three (3) month period (or such longer period of time as determined by the Board, in its discretion) after the date of termination of such Grantee's employment or service (or within such different period as the Committee may have provided pursuant to Section 6.6 hereof), or if the Grantee's employment or service with the Company or any of its Affiliates shall terminate by reason of Disability, all Awards theretofore granted to such Grantee may (to the extent otherwise vested and exercisable and unless earlier terminated in accordance with their terms) be exercised by the Grantee or by the Grantee's estate or by a person who acquired the legal right to exercise such Awards by bequest or inheritance, or by a person who acquired the legal right to exercise such Awards in accordance with applicable law in the case of Disability of the Grantee, as the case may be, at any time within one (1) year (or such longer period of time as determined by the Committee, in its discretion) after the death or Disability of the Grantee (or such different period as the Committee shall prescribe), but in any event no later than the date of expiration of the Award's term as set forth in the Award Agreement or pursuant to this Plan. In the event that an Award granted hereunder shall be exercised as set forth above by any person other than the Grantee, written notice of such exercise shall be accompanied by a certified copy of letters testamentary or proof satisfactory to the Committee of the right of such person to exercise such Award.

6.7.2 In the event that the employment or service of a Grantee shall terminate on account of such Grantee's Retirement, all Awards of such Grantee that are exercisable at the time of such Retirement may, unless earlier terminated in accordance with their terms, be exercised at any time within the three (3) month period after the date of such Retirement (or such different period as the Committee shall prescribe).

6.8. Suspension of Vesting. Unless the Committee provides otherwise, vesting of Awards granted hereunder shall be suspended during any unpaid leave of absence, other than in the case of any (i) leave of absence which was pre-approved by the Company explicitly for purposes of continuing the vesting of Awards, or (ii) transfers between locations of the Company or any of its Affiliates, or between the Company and any of its Affiliates, or any respective successor thereof. For clarity, for purposes of this Plan, military leave, statutory maternity or paternity leave or sick leave are not deemed unpaid leave of absence.

6.9. Securities Law Restrictions. Except as otherwise provided in the applicable Award Agreement or other agreement between the Service Provider and the Company, if the exercise of an Award following the termination of the Service Provider's employment or service (other than for Cause) would be prohibited at any time solely because the issuance of Shares would violate the registration requirements under the Securities Act or equivalent requirements under equivalent laws of other applicable jurisdictions, then the Award shall remain exercisable and terminate on the earlier of (i) the expiration of a period of three (3) months (or such longer period of time as determined by the Board, in its discretion) after the termination of the Service Provider's employment or service during which the exercise of the Award would not be in such violation, or (ii) the expiration of the term of the Award as set forth in the Award Agreement or pursuant to this Plan. In addition, unless otherwise provided in a Grantee's Award Agreement, if the sale of any Shares received upon exercise or (if applicable) vesting of an Award following the termination of the Grantee's employment or service (other than for Cause) would violate the Company's insider trading policy, then the Award shall terminate on the earlier of (i) the expiration of a period equal to the applicable post-termination exercise period after the termination of the Grantee's employment or service during which the exercise of the Award would not be in violation of the Company's insider trading policy, or (ii) the expiration of the term of the Award as set forth in the applicable Award Agreement or pursuant to this Plan.

6.10. Voting Proxy. Until immediately after the listing for trading on a stock exchange or market or trading system of the Company's (or the Successor Corporation's) stock, the Shares subject to an Award or to be issued pursuant to an Award or any other Securities, shall, unless otherwise determined by the Committee, be subject to an irrevocable proxy and power of attorney by the Grantee or the Trustee (if so requested from the Trustee), as the case may be, to the Company, which shall designate such person or persons (with a right of substitution) from time to time as determined by the Committee (and in the absence of such determination, the Chief Executive Officer of the Company or the Chairman of the Board, ex officio). The Trustee is deemed to be instructed by the Grantee to sign such proxy, as requested by the Company. The proxy shall entitle the holder thereof to receive notices, vote and take such other actions in respect of the Shares or other Securities. Any person holding or exercising such voting proxies shall do so solely in his capacity as the proxy holder and not individually. All Awards granted hereunder shall be conditioned upon the execution of such irrevocable proxy in substantially the form prescribed by the Committee from time to time. So long as any such Shares are subject to such

irrevocable proxy and power of attorney or held by a Trustee (and unless a proxy was given by the Trustee as aforesaid), (i) in any stockholders meeting or written consent in lieu thereof, such Shares shall be voted by the proxy holder (or the Trustee, as applicable), unless directed otherwise by the Board, in the same proportion as the result of the vote at the stockholders' meeting (or written consent in lieu thereof) in respect of which the Shares are being voted (whether an extraordinary or annual meeting, and whether of the capital stock as one class or of any class thereof), and (ii) or in any act or consent of stockholders under the Charter Documents, Stockholders Agreements or otherwise, such Shares shall be cast by the proxy holder (or the Trustee, as applicable), unless directed otherwise by the Board, in the same proportion as the result of the stockholders' act or consent. The provisions of this Section shall apply to the Grantee and to any purchaser, assignee or transferee of any Shares.

6.11. Other Provisions. The Award Agreement evidencing Awards under this Plan shall contain such other terms and conditions not inconsistent with this Plan as the Committee may determine, at or after the date of grant, including provisions in connection with the restrictions on transferring the Awards or Shares covered by such Awards, which shall be binding upon the Grantees and any purchaser, assignee or transferee of any Awards, and other terms and conditions as the Committee shall deem appropriate.

7. NONQUALIFIED STOCK OPTIONS.

Awards granted pursuant to this Section 7 are intended to constitute Nonqualified Stock Options and shall be subject to the general terms and conditions specified in Section 6 hereof and other provisions of this Plan, except for any provisions of this Plan applying to Awards under different tax laws or regulations. In the event of any inconsistency or contradictions between the provisions of this Section 7 and the other terms of this Plan, this Section 7 shall prevail.

7.1. Certain Limitations on Eligibility for Nonqualified Stock Options. Nonqualified Stock Options may not be granted to a Service Provider who is deemed to be a resident of the United States for purposes of taxation or who is otherwise subject to United States federal income tax unless the Shares underlying such Options constitute "service recipient stock" under Section 409A of the Code or unless such Options comply with the payment requirements of Section 409A of the Code.

7.2. Exercise Price. The Exercise Price of a Nonqualified Stock Option shall not be less than 100% of the Fair Market Value of a Share on the date of grant of such Option unless the Committee specifically indicates that the Awards will have a lower Exercise Price and the Award complies with Section 409A of the Code. Notwithstanding the foregoing, a Nonqualified Stock Option may be granted with an exercise price lower than the minimum exercise price set forth above if such Award is granted pursuant to an assumption or substitution for another option in a manner qualifying under the provisions of that complies with Section 424(a) of the Code and 1.409A-1(b)(5)(v)(D) of the U.S. Treasury Regulations or any successor guidance.

8. INCENTIVE STOCK OPTIONS.

Awards granted pursuant to this Section 8 are intended to constitute Incentive Stock Options and shall be granted subject to the following special terms and conditions, the general terms and

conditions specified in Section 6 hereof and other provisions of this Plan, except for any provisions of this Plan applying to Awards under different tax laws or regulations. In the event of any inconsistency or contradictions between the provisions of this Section 8 and the other terms of this Plan, this Section 8 shall prevail.

8.1. Eligibility for Incentive Stock Options. Incentive Stock Options may be granted only to Employees of the Company, or to Employees of a Parent or Subsidiary, determined as of the date of grant of such Options. An Incentive Stock Option granted to a prospective Employee upon the condition that such person become an Employee shall be deemed granted effective on the date such person commences employment, with an exercise price determined as of such date in accordance with Section 8.2.

8.2. Exercise Price. The Exercise Price of an Incentive Stock Option shall not be less than one hundred percent (100%) of the Fair Market Value of the Shares covered by the Awards on the date of grant of such Option or such other price as may be determined pursuant to the Code. Notwithstanding the foregoing, an Incentive Stock Option may be granted with an exercise price lower than the minimum exercise price set forth above if such Award is granted pursuant to an assumption or substitution for another option in a manner that complies with the provisions of Section 424(a) of the Code.

8.3. Date of Grant. Notwithstanding any other provision of this Plan to the contrary, no Incentive Stock Option may be granted under this Plan after 10 years from the date this Plan is adopted, or the date this Plan is approved by the stockholders, whichever is earlier.

8.4. Exercise Period. No Incentive Stock Option shall be exercisable after the expiration of ten (10) years after the effective date of grant of such Award, subject to Section 8.6. No Incentive Stock Option granted to a prospective Employee may become exercisable prior to the date on which such person commences employment.

8.5. $100,000 Per Year Limitation. The aggregate Fair Market Value (determined as of the date the Incentive Stock Option is granted) of the Shares with respect to which all Incentive Stock Options granted under this Plan and all other "incentive stock option" plans of the Company, or of any Parent or Subsidiary or other Affiliate thereof, become exercisable for the first time by each Grantee during any calendar year shall not exceed one hundred thousand United States dollars ($100,000) with respect to such Grantee. To the extent that the aggregate Fair Market Value of Shares with respect to which such Incentive Stock Options and any other such incentive stock options are exercisable for the first time by any Grantee during any calendar year exceeds one hundred thousand United States dollars ($100,000), such options shall be treated as Nonqualified Stock Options. The foregoing shall be applied by taking options into account in the order in which they were granted. If the Code is amended to provide for a different limitation from that set forth in this Section 8.5, such different limitation shall be deemed incorporated herein effective as of the date and with respect to such Awards as required or permitted by such amendment to the Code. If an Option is treated as an Incentive Stock Option in part and as a Nonqualified Stock Option in part by reason of the limitation set forth in this Section 8.5, the Grantee may designate which portion of such Option the Grantee is exercising. In the absence of such designation, the Grantee shall be deemed to have exercised the Incentive Stock Option portion of the Option first. Separate certificates representing each such portion may be issued upon the exercise of the Option.

8.6. Ten Percent Stockholder. In the case of an Incentive Stock Option granted to a Ten Percent Stockholder, (i) the Exercise Price shall not be less than one hundred and ten percent (110%) of the Fair Market Value of a Share on the date of grant of such Incentive Stock Option, and (ii) the Exercise Period shall not exceed five (5) years from the effective date of grant of such Incentive Stock Option.

8.7. Payment of Exercise Price. Each Award Agreement evidencing an Incentive Stock Option shall state each alternative method by which the Exercise Price thereof may be paid.

8.8. Leave of Absence. Notwithstanding Section 6.8, a Grantee's employment shall not be deemed to have terminated if the Grantee takes any leave as set forth in Section 6.8(i); provided, however, that if any such leave exceeds three (3) months, on the day that is six (6) months following the commencement of such leave any Incentive Stock Option held by the Grantee shall cease to be treated as an Incentive Stock Option and instead shall be treated thereafter as a Nonqualified Stock Option, unless the Grantee's right to return to employment is guaranteed by statute or contract.

8.9. Exercise Following Termination. Notwithstanding anything else in this Plan to the contrary, Incentive Stock Options that are not exercised within three (3) months following termination of the Grantee's employment with the Company or its Parent or Subsidiary or a corporation (or a parent or subsidiary of such corporation) issuing or assuming an Option of such Grantee in a transaction to which Section 424(a) of the Code applies, or within one year in case of termination of the Grantee's employment with the Company or its Parent or Subsidiary due to a Disability (within the meaning of Section 22(e)(3) of the Code), shall be deemed to be Nonqualified Stock Options.

8.10. Notice to Company of Disqualifying Disposition. Each Grantee who receives an Incentive Stock Option must agree to notify the Company in writing immediately after the Grantee makes a Disqualifying Disposition of any Shares received pursuant to the exercise of Incentive Stock Options. A "Disqualifying Disposition" is any disposition (including any sale) of such Shares before the later of (i) two years after the date the Grantee was granted the Incentive Stock Option, or (ii) one year after the date the Grantee acquired Shares by exercising the Incentive Stock Option. If the Grantee dies before such Shares are sold, these holding period requirements do not apply and no disposition of the Shares will be deemed a Disqualifying Disposition.

9. 102 AWARDS.

Awards granted pursuant to this Section 9 are intended to constitute 102 Awards and shall be granted subject to the following special terms and conditions, the general terms and conditions specified in Section 6 hereof and other provisions of this Plan, except for any provisions of this Plan applying to Awards under different tax laws or regulations. In the event of any inconsistency or contradictions between the provisions of this Section 9 and the other terms of this Plan, this Section 9 shall prevail.

9.1. Tracks. Awards granted pursuant to this Section 9 are intended to be granted pursuant to Section 102 of the Ordinance pursuant to either (i) Section 102(b)(2) or (3) thereof (as applicable), under the capital gain track ("102 Capital Gain Track Awards"), or

(ii) Section 102(b)(1) thereof under the ordinary income track ("102 Ordinary Income Track Awards", and together with 102 Capital Gain Track Awards, "102 Trustee Awards"). 102 Trustee Awards shall be granted subject to the special terms and conditions contained in this Section 9, the general terms and conditions specified in Section 6 hereof and other provisions of this Plan, except for any provisions of this Plan applying to Options under different tax laws or regulations.

9.2. Election of Track. Subject to Applicable Law, the Company may grant only one type of 102 Trustee Awards at any given time to all Grantees who are to be granted 102 Trustee Awards pursuant to this Plan, and shall file an election with the ITA regarding the type of 102 Trustee Awards it elects to grant before the date of grant of any 102 Trustee Awards (the "Election"). Such Election shall also apply to any other securities, including bonus shares, received by any Grantee as a result of holding the 102 Trustee Awards. The Company may change the type of 102 Trustee Awards that it elects to grant only after the expiration of at least 12 months from the end of the year in which the first grant was made in accordance with the previous Election, or as otherwise provided by Applicable Law. Any Election shall not prevent the Company from granting Awards, pursuant to Section 102(c) of the Ordinance without a Trustee ("102 Non-Trustee Awards").

9.3. Eligibility for Awards.

9.3.1 Subject to Applicable Law, 102 Awards may only be granted to an "employee" within the meaning of Section 102(a) of the Ordinance (which as of the date of the adoption of this Plan means (i) individuals employed by any Israeli company that is an Affiliate of the Company, and (ii) individuals who are serving and are engaged personally (and not through an entity) as "office holders" by such an Israeli company), but may not be granted to a Controlling Stockholder ("Eligible 102 Grantees"). Eligible 102 Grantees may receive only 102 Awards, which may either be granted to a Trustee or granted under Section 102 of the Ordinance without a Trustee.

9.4. 102 Award Grant Date.

9.4.1 Each 102 Award will be deemed granted on the date determined by the Committee, subject to Section 9.4.2, provided that (i) the Grantee has signed all documents required by the Company or pursuant to Applicable Law, and (ii) with respect to 102 Trustee Award, the Company has provided all applicable documents to the Trustee in accordance with the guidelines published by the ITA, and if an agreement is not signed and delivered by the Grantee within 90 days from the date determined by the Committee (subject to Section 9.4.2), then such 102 Trustee Award shall be deemed granted on such later date as such agreement is signed and delivered and on which the Company has provided all applicable documents to the Trustee in accordance with the guidelines published by the ITA. In the case of any contradiction, this provision and the date of grant determined pursuant hereto shall supersede and be deemed to amend any date of grant indicated in any corporate resolution or Award Agreement.

9.4.2 Unless otherwise permitted by the Ordinance, any grants of 102 Trustee Awards that are made on or after the date of the adoption of this Plan or an amendment to this Plan, as the case may be, that may become effective only at the expiration of thirty

(30) days after the filing of this Plan or any amendment thereof (as the case may be) with the ITA in accordance with the Ordinance shall be conditional upon the expiration of such 30-day period, such condition shall be read and is incorporated by reference into any corporate resolutions approving such grants and into any Award Agreement evidencing such grants (whether or not explicitly referring to such condition), and the date of grant shall be at the expiration of such 30-day period, whether or not the date of grant indicated therein corresponds with this Section. In the case of any contradiction, this provision and the date of grant determined pursuant hereto shall supersede and be deemed to amend any date of grant indicated in any corporate resolution or Award Agreement.

9.5. 102 Trustee Awards.

9.5.1 Each 102 Trustee Award, each Share issued pursuant to the exercise of any 102 Trustee Award, and any rights granted thereunder, including bonus shares, shall be issued to and registered in the name of the Trustee and shall be held in trust for the benefit of the Grantee for the requisite period prescribed by the Ordinance or such longer period as set by the Committee (the "Required Holding Period"). In the event that the requirements under Section 102 of the Ordinance to qualify an Award as a 102 Trustee Award are not met, then the Award may be treated as a 102 Non-Trustee Award or 3(9) Award, all in accordance with the provisions of the Ordinance. After expiration of the Required Holding Period, the Trustee may release such 102 Trustee Awards and any such Shares, provided that (i) the Trustee has received an acknowledgment from the ITA that the Grantee has paid any applicable taxes due pursuant to the Ordinance, or (ii) the Trustee and/or the Company and/or its Affiliate withholds all applicable taxes and compulsory payments due pursuant to the Ordinance arising from the 102 Trustee Awards and/or any Shares issued upon exercise or (if applicable) vesting of such 102 Trustee Awards. The Trustee shall not release any 102 Trustee Awards or Shares issued upon exercise or (if applicable) vesting thereof prior to the payment in full of the Grantee's tax and compulsory payments arising from such 102 Trustee Awards and/or Shares or the withholding referred to in (ii) above.

9.5.2 Each 102 Trustee Award shall be subject to the relevant terms of the Ordinance, the Rules and any determinations, rulings or approvals issued by the ITA, which shall be deemed an integral part of the 102 Trustee Awards and shall prevail over any term contained in this Plan or Award Agreement that is not consistent therewith. Any provision of the Ordinance, the Rules and any determinations, rulings or approvals by the ITA not expressly specified in this Plan or Award Agreement that are necessary to receive or maintain any tax benefit pursuant to Section 102 of the Ordinance shall be binding on the Grantee. The Grantee granted a 102 Trustee Awards shall comply with the Ordinance and the terms and conditions of the trust agreement entered into between the Company and the Trustee. The Grantee shall execute any and all documents that the Company and/or its Affiliates and/or the Trustee determine from time to time to be necessary in order to comply with the Ordinance and the Rules.

9.5.3 During the Required Holding Period, the Grantee shall not release from trust or sell, assign, transfer or give as collateral, the Shares issuable upon the exercise or (if applicable) vesting of a 102 Trustee Awards and/or any securities issued or distributed with

respect thereto, until the expiration of the Required Holding Period. Notwithstanding the above, if any such sale, release or other action occurs during the Required Holding Period it may result in adverse tax consequences to the Grantee under Section 102 of the Ordinance and the Rules, which shall apply to and shall be borne solely by such Grantee. Subject to the foregoing, the Trustee may, pursuant to a written request from the Grantee, but subject to the terms of this Plan, release and transfer such Shares to a designated third party, provided that both of the following conditions have been fulfilled prior to such release or transfer: (i) payment has been made to the ITA of all taxes and compulsory payments required to be paid upon the release and transfer of the Shares, and confirmation of such payment has been received by the Trustee and the Company, and (ii) the Trustee has received written confirmation from the Company that all requirements for such release and transfer have been fulfilled according to the terms of the Company's corporate documents, any agreement governing the Shares, this Plan, the Award Agreement and any Applicable Law.

9.5.4 If a 102 Trustee Award is exercised or (if applicable) vested, the Shares issued upon such exercise or (if applicable) vesting shall be issued in the name of the Trustee for the benefit of the Grantee.

9.5.5 Upon or after receipt of a 102 Trustee Award, if required, the Grantee may be required to sign an undertaking to release the Trustee from any liability with respect to any action or decision duly taken and executed in good faith by the Trustee in relation to this Plan, or any 102 Trustee Awards or Share granted to such Grantee thereunder.

9.6. 102 Non-Trustee Awards. The foregoing provisions of this Section 9 relating to 102 Trustee Awards shall not apply with respect to 102 Non-Trustee Awards, which shall, however, be subject to the relevant provisions of Section 102 of the Ordinance and the applicable Rules. The Committee may determine that 102 Non-Trustee Awards, the Shares issuable upon the exercise or (if applicable) vesting of a 102 Non-Trustee Awards and/or any securities issued or distributed with respect thereto, shall be allocated or issued to the Trustee, who shall hold such 102 Non-Trustee Awards and all accrued rights thereon (if any), in trust for the benefit of the Grantee and/or the Company, as the case may be, until the full payment of tax arising from the 102 Non-Trustee Awards, the Shares issuable upon the exercise or (if applicable) vesting of a 102 Non-Trustee Awards and/or any securities issued or distributed with respect thereto. The Company may choose, alternatively, to force the Grantee to provide it with a guarantee or other security, to the satisfaction of each of the Trustee and the Company, until the full payment of the applicable taxes.

9.7. Written Grantee Undertaking. To the extent and with respect to any 102 Trustee Award, and as required by Section 102 of the Ordinance and the Rules, by virtue of the receipt of such Award, the Grantee is deemed to have undertaken and confirm in writing the following (and such undertaking is deemed incorporated into any documents signed by the Grantee in connection with the employment or service of the Grantee and/or the grant of such Award). The following written undertaking shall be deemed to apply and relate to all 102 Trustee Awards granted to the Grantee, whether under this Plan or other plans maintained by the Company, and whether prior to or after the date hereof.

9.7.1 The Grantee shall comply with all terms and conditions set forth in Section 102 of the Ordinance with regard to the "Capital Gain Track" or the "Ordinary Income Track", as applicable, and the applicable rules and regulations promulgated thereunder, as amended from time to time;

9.7.2 The Grantee is familiar with, and understands the provisions of, Section 102 of the Ordinance in general, and the tax arrangement under the "Capital Gain Track" or the "Ordinary Income Track" in particular, and its tax consequences; the Grantee agrees that the 102 Trustee Awards and Shares that may be issued upon exercise or (if applicable) vesting of the 102 Trustee Awards (or otherwise in relation to the 102 Trustee Awards), will be held by a trustee appointed pursuant to Section 102 of the Ordinance for at least the duration of the "Holding Period" (as such term is defined in Section 102) under the "Capital Gain Track" or the "Ordinary Income Track", as applicable. The Grantee understands that any release of such 102 Trustee Awards or Shares from trust, or any sale of the Share prior to the termination of the Holding Period, as defined above, will result in taxation at marginal tax rate, in addition to deductions of appropriate social security, health tax contributions or other compulsory payments; and

9.7.3 The Grantee agrees to the trust deed signed between the Company, his employing company and the trustee appointed pursuant to Section 102 of the Ordinance.

10. 3(9) AWARDS.

Awards granted pursuant to this Section 10 are intended to constitute 3(9) Awards and shall be granted subject to the general terms and conditions specified in Section 6 hereof and other provisions of this Plan, except for any provisions of this Plan applying to Awards under different tax laws or regulations. In the event of any inconsistency or contradictions between the provisions of this Section 10 and the other terms of this Plan, this Section 10 shall prevail.

10.1. To the extent required by the Ordinance or the ITA or otherwise deemed by the Committee to be advisable, the 3(9) Awards and/or any shares or other securities issued or distributed with respect thereto granted pursuant to this Plan shall be issued to a Trustee nominated by the Committee in accordance with the provisions of the Ordinance. In such event, the Trustee shall hold such Awards and/or any shares or other securities issued or distributed with respect thereto in trust, until exercised or (if applicable) vested by the Grantee and the full payment of tax arising therefrom, pursuant to the Company's instructions from time to time as set forth in a trust agreement, which will have been entered into between the Company and the Trustee. If determined by the Board or the Committee, and subject to such trust agreement, the Trustee shall be responsible for withholding any taxes to which a Grantee may become liable upon issuance of Shares, whether due to the exercise or (if applicable) vesting of Awards.

10.2. Shares pursuant to a 3(9) Award shall not be issued, unless the Grantee delivers to the Company payment in cash or by bank check or such other form acceptable to the Committee of all withholding taxes due, if any, on account of the Grantee acquired Shares under the Award or gives other assurance satisfactory to the Committee of the payment of those withholding taxes.

11. RESTRICTED STOCK.

The Committee may award Restricted Stock to any eligible Grantee, including under Section 102 of the Ordinance. Each Award of Restricted Stock under this Plan shall be evidenced by a written agreement between the Company and the Grantee (the "Restricted Stock Agreement"), in such form as the Committee shall from time to time approve. The Restricted Stock shall be subject to all applicable terms of this Plan, which in the case of Restricted Stock granted under Section 102 of the Ordinance shall include Section 9 hereof, and may be subject to any other terms that are not inconsistent with this Plan. The provisions of the various Restricted Stock Agreements entered into under this Plan need not be identical. The Restricted Stock Agreement shall comply with and be subject to Section 6 and the following terms and conditions, unless otherwise specifically provided in such Agreement and not inconsistent with this Plan or Applicable Law:

11.1. Purchase Price. Section 6.4 shall not apply. Each Restricted Stock Agreement shall state an amount of Exercise Price to be paid by the Grantee, if any, in consideration for the issuance of the Restricted Stock and the terms of payment thereof, which may include payment in cash or, subject to the Committee's approval, by issuance of promissory notes or other evidence of indebtedness on such terms and conditions as determined by the Committee.

11.2. Restrictions. Restricted Stock may not be sold, assigned, transferred, pledged, hypothecated or otherwise disposed of, except by will or the laws of descent and distribution (in which case they shall be transferred subject to all restrictions then or thereafter applicable thereto), until such Restricted Stock shall have vested (the period from the date on which the Award is granted until the date of vesting of the Restricted Stock thereunder being referred to herein as the "Restricted Period"). The Committee may also impose such additional or alternative restrictions and conditions on the Restricted Stock, as it deems appropriate, including the satisfaction of performance criteria. Such performance criteria may include, but are not limited to, sales, earnings before interest and taxes, return on investment, earnings per share, any combination of the foregoing or rate of growth of any of the foregoing, as determined by the Committee or pursuant to the provisions of any Company policy required under mandatory provisions of Applicable Law. Certificates for shares issued pursuant to Restricted Stock Awards, if issued, shall bear an appropriate legend referring to such restrictions, and any attempt to dispose of any such shares in contravention of such restrictions shall be null and void and without effect. Such certificates may, if so determined by the Committee, be held in escrow by an escrow agent appointed by the Committee, or, if a Restricted Stock Award is made pursuant to Section 102 of the Ordinance, by the Trustee. In determining the Restricted Period of an Award the Committee may provide that the foregoing restrictions shall lapse with respect to specified percentages of the awarded Restricted Stock on successive anniversaries of the date of such Award. To the extent required by the Ordinance or the ITA, the Restricted Stock issued pursuant to Section 102 of the Ordinance shall be issued to the Trustee in accordance with the provisions of the Ordinance and the Restricted Stock shall be held for the benefit of the Grantee for at least the Required Holding Period.

11.3. Forfeiture; Repurchase. Subject to such exceptions as may be determined by the Committee, if the Grantee's continuous employment with or service to the Company or any Affiliate thereof shall terminate (such that Grantee is no longer a Service Provider of neither the Company nor any Affiliate thereof) for any reason prior to the expiration of the Restricted Period of an Award or prior to the timely payment in full of the Exercise Price of any Restricted Stock,

any Restricted Stock remaining subject to vesting or with respect to which the purchase price has not been paid in full, shall thereupon be forfeited, transferred to, and redeemed, repurchased or cancelled by, as the case may be, in any manner as set forth in Section 6.6.2(i) through (v), subject to Applicable Law and the Grantee shall have no further rights with respect to such Restricted Stock.

11.4. Ownership. During the Restricted Period the Grantee shall possess all incidents of ownership of such Restricted Stock, subject to Section 6.10 and Section 11.2, including the right to vote and receive dividends with respect to such Shares. All securities, if any, received by a Grantee with respect to Restricted Stock as a result of any stock split, stock dividend, combination of shares, or other similar transaction shall be subject to the restrictions applicable to the original Award.

12. RESTRICTED STOCK UNITS.

An RSU is an Award covering a number of Shares that is settled, if vested and (if applicable) exercised, by issuance of those Shares. An RSU may be awarded to any eligible Grantee, including under Section 102 of the Ordinance. The Award Agreement relating to the grant of RSUs under this Plan (the "Restricted Stock Unit Agreement"), shall be in such form as the Committee shall from time to time approve. The RSUs shall be subject to all applicable terms of this Plan, which in the case of RSUs granted under Section 102 of the Ordinance shall include Section 9 hereof, and may be subject to any other terms that are not inconsistent with this Plan. The provisions of the various Restricted Stock Unit Agreements entered into under this Plan need not be identical. RSUs may be granted in consideration of a reduction in the recipient's other compensation.

12.1. Exercise Price. No payment of Exercise Price shall be required as consideration for RSUs, unless included in the Award Agreement or as required by Applicable Law, and Section 6.4 shall apply, if applicable.

12.2. Stockholders' Rights. The Grantee shall not possess or own any ownership rights in the Shares underlying the RSUs and no rights as a stockholder shall exist prior to the actual issuance of Shares in the name of the Grantee.

12.3. Settlements of Awards. Settlement of vested RSUs shall be made in the form of Shares or cash, as determined by the Committee. Distribution to a Grantee of an amount (or amounts) from settlement of vested RSUs can be deferred to a date after vesting as determined by the Committee. The amount of a deferred distribution may be increased by an interest factor or by dividend equivalents. Until the grant of RSUs is settled, the number of Shares underlying such RSUs shall be subject to adjustment pursuant hereto.

12.4. Section 409A Restrictions. Notwithstanding anything to the contrary set forth herein, any RSUs granted under this Plan that are not exempt from the requirements of Section 409A of the Code shall contain such restrictions or other provisions so that such RSUs will comply with the requirements of Section 409A of the Code, if applicable to the Company. Such restrictions, if any, shall be determined by the Committee and contained in the Restricted Stock Unit Agreement evidencing such RSU. For example, such restrictions may include a

requirement that any Shares that are to be issued in a year following the year in which the RSU vests must be issued in accordance with a fixed, pre-determined schedule.

13. OTHER SHARE OR SHARE-BASED AWARDS.

13.1. The Committee may grant other Awards under this Plan pursuant to which Shares (which may, but need not, be Restricted Stock pursuant to Section 11 hereof), cash (in settlement of Share-based Awards) or a combination thereof, are or may in the future be acquired or received, or Awards denominated in stock units, including units valued on the basis of measures other than market value.

13.2. The Committee may also grant stock appreciation rights without the grant of an accompanying option, which rights shall permit the Grantees to receive, at the time of any exercise of such rights, cash equal to the amount by which the Fair Market Value of the Shares in respect to which the right was granted is so exercised exceed the exercise price thereof. The exercise price of any such stock appreciation right granted to a Grantee who is subject to U.S. federal income tax shall be determined in compliance with Section 7.2.

13.3. Such other Share-based Awards as set forth above may be granted alone, in addition to, or in tandem with any Award of any type granted under this Plan.

14. EFFECT OF CERTAIN CHANGES.

14.1. General. In the event of a division or subdivision of the outstanding capital stock of the Company, any distribution of bonus shares (stock split), consolidation or combination of capital stock of the Company (reverse stock split), reclassification with respect to the Shares or any similar recapitalization events (each, a "Recapitalization"), a merger (including, a reverse merger and a reverse triangular merger), consolidation, amalgamation or like transaction of the Company with or into another corporation, a reorganization (which may include a combination or exchange of shares, spin-off or other corporate divestiture or division, or other similar occurrences, the Committee shall make, without the need for a consent of any holder of an Award, such adjustments as determined by the Committee to be appropriate, in its discretion, in order to adjust (i) the number and class of stock reserved and available for grants of Awards, (ii) the number and class of stock covered by outstanding Awards, (iii) the Exercise Price per share covered by any Award, (iv) the terms and conditions concerning vesting and exercisability and the term and duration of the outstanding Awards, and (v) any other terms of the Award that in the opinion of the Committee should be adjusted. Any fractional shares resulting from such adjustment shall be treated as determined by the Committee, and in the absence of such determination shall be rounded to the nearest whole share, and the Company shall have no obligation to make any cash or other payment with respect to such fractional shares. No adjustment shall be made by reason of the distribution of subscription rights or rights offering to outstanding stock or other issuance of stock by the Company, unless the Committee determines otherwise. The adjustments determined pursuant to this Section 14.1 (including a determination that no adjustment is to be made) shall be final, binding and conclusive.

14.2. Merger/Sale of Company. In the event of (i) a sale of all or substantially all of the assets of the Company, or a sale (including an exchange) of all or substantially all of the stock of

the Company, to any person, or a purchase by a stockholder of the Company or by an Affiliate of such stockholder, of all the stock of the Company held by all or substantially all other stockholders or by other stockholders who are not Affiliated with such acquiring party; (ii) a merger (including, a reverse merger and a reverse triangular merger), consolidation, amalgamation or like transaction of the Company with or into another corporation; (iii) a scheme of arrangement for the purpose of effecting such sale, merger, consolidation, amalgamation or other transaction; (iv) approval by the stockholders of the Company of a complete liquidation or dissolution of the Company, or (v) such other transaction or set of circumstances that is determined by the Board, in its discretion, to be a transaction subject to the provisions of this Section 14.2 excluding any of the above transactions in clauses (i) through (v) if the Board determines that such transaction should be excluded from the definition hereof and the applicability of this Section 14.2 (such transaction, a "Merger/Sale"), then, without derogating from the general authority and power of the Board or the Committee under this Plan, without the Grantee's consent and action and without any prior notice requirement:

14.2.1 Unless otherwise determined by the Committee in its sole and absolute discretion, any Award then outstanding shall be assumed or be substituted by the Company, or by the successor corporation in such Merger/Sale or by any parent or Affiliate thereof, as determined by the Committee in its discretion (the "Successor Corporation"), under terms as determined by the Committee or the terms of this Plan applied by the Successor Corporation to such assumed or substituted Awards.

For the purposes of this Section 14.2.1, the Award shall be considered assumed or substituted if, following a Merger/Sale, the Award confers on the holder thereof the right to purchase or receive, for each Share underlying an Award immediately prior to the Merger/Sale, either (i) the consideration (whether stock, cash, or other securities or property, or any combination thereof) distributed to or received by holders of Shares in the Merger/Sale for each Share held on the effective date of the Merger/Sale (and if holders were offered a choice or several types of consideration, the type of consideration as determined by the Committee), or (ii) regardless of the consideration received by the holders of Shares in the Merger/Sale, solely shares or any type of Awards (or their equivalent) of the Successor Corporation at a value to be determined by the Committee in its discretion, or a certain type of consideration (whether stock, cash, or other securities or property, or any combination thereof) as determined by the Committee. Any of the above consideration referred to in clauses (i) and (ii) shall be subject to the same vesting and expiration terms of the Awards applying immediately prior to the Merger/Sale, unless determined by the Committee in its discretion that the consideration shall be subject to different vesting and expiration terms, or other terms, and the Committee may determine that it be subject to other or additional terms. The foregoing shall not limit the Committee's authority to determine, in its sole discretion, that in lieu of such assumption or substitution of Awards for Awards of the Successor Corporation, such Award will be substituted for any other type of asset or property, including as set forth in Section 14.2.2 hereunder.

14.2.2 Regardless of whether or not Awards are assumed or substituted, the Committee may (but shall not be obligated to), in its sole discretion:

14.2.2.1. provide for the Grantee to have the right to exercise the Award in respect of Shares covered by the Award which would otherwise be exercisable or vested,

under such terms and conditions as the Committee shall determine, and the cancellation of all unexercised Awards (whether vested or unvested) upon or immediately prior to the closing of the Merger/Sale, unless the Committee provides for the Grantee to have the right to exercise the Award, or otherwise for the acceleration of vesting of such Award, as to all or part of the Shares covered by the Award which would not otherwise be exercisable or vested, under such terms and conditions as the Committee shall determine; and/or

14.2.2.2. provide for the cancellation of each outstanding Award at or immediately prior to the closing of such Merger/Sale, and if and to what extent payment shall be made to the Grantee of an amount in cash, in stock of the Company, in capital stock of the acquirer or of a corporation or other business entity which is a party to the Merger/Sale, or in other property, as determined by the Committee to be fair in the circumstances, and subject to such terms and conditions as determined by the Committee. The Committee shall have full authority to select the method for determining the payment (being the Black-Scholes model or any other method). *Inter alia*, and without limitation of the following determination being made in other circumstances, the Committee's determination may provide that payment shall be set to zero if the value of the Shares is determined to be less than the Exercise Price, or in respect of Shares covered by the Award which would not otherwise be exercisable or vested, or that payment may be made only in excess of the Exercise Price.

14.2.3 The Committee may, in its sole discretion, determine: (i) that any payments made in respect of Awards shall be made or delayed to the same extent that payment of consideration to the holders of the Shares in connection with the Merger/Sale is made or delayed as a result of escrows, indemnification, earn outs, holdbacks or any other contingencies or conditions; and (ii) the terms and conditions applying to the payment made to the Grantees, including participation in escrow, indemnification, releases, earn-outs, holdbacks or any other contingencies.

14.2.4 The Committee may, in its sole discretion, determine to suspend the Grantee's rights to exercise any vested portion of an Award for a period of time prior to the signing or consummation of a Merger/Sale transaction.

14.2.5 Notwithstanding anything to the contrary, in the event of a Merger/Sale, the Committee may determine, in its sole discretion, that upon consummation of such Merger/Sale the terms of any Award shall be otherwise amended, modified or terminated, as the Committee shall deem in good faith to be appropriate and without any liability to the Company or its Affiliates or to its or their respective officers, directors, employees and representatives and the respective successors and assigns of any of the foregoing in connection with the method of treatment or chosen course of action permitted hereunder.

14.2.6 Neither the authorities and powers of the Committee under this Section 14.2, nor the exercise or implementation thereof, shall (i) be restricted or limited in any way by any adverse consequences (tax or otherwise) that may result to any holder of an Award, and (ii) as, *inter alia*, being a feature of the Award upon its grant, be deemed to constitute a change or an amendment of the rights of such holder under this Plan, nor shall any such adverse consequences (as well as any adverse tax consequences that may

result from any tax ruling or other approval or determination of any relevant tax authority) be deemed to constitute a change or an amendment of the rights of such holder under this Plan, and may be effected without consent of any Grantee and without any liability to the Company or its Affiliates or to its or their respective officers, directors, employees and representatives and the respective successors and assigns of any of the foregoing. The Committee need not take the same action with respect to all Awards or with respect to all Service Providers. The Committee may take different actions with respect to the vested and unvested portions of an Award. The Committee may determine an amount or type of consideration to be received or distributed in a Merger/Sale which may differ as among the Grantees, and as between the Grantees and any other holders of stock of the Company.

14.2.7 The Committee's determinations pursuant to this Section 14 shall be conclusive and binding on all Grantees.

14.2.8 If determined by the Committee, the Grantees shall be subject to the definitive agreement(s) in connection with the Merger/Sale as applying to holders of Shares including, such terms, conditions, representations, undertakings, liabilities, limitations, releases, indemnities, participating in transaction expenses, shareholders/sellers representative expense fund and escrow arrangement, in each case as determined by the Committee. Each Grantee shall execute such separate agreement(s) or instruments as may be requested by the Company, the Successor Corporation or the acquirer in connection with such in such Merger/Sale and in the form required by them. The execution of such separate agreement(s) may be a condition to the receipt of assumed or substituted Awards, payment in lieu of the Award or the exercise of any Award.

14.3. Reservation of Rights. Except as expressly provided in this Section 14 (if any), the Grantee of an Award hereunder shall have no rights by reason of any Recapitalization of stock of any class, any increase or decrease in the number of stock of any class, or any dissolution, liquidation, reorganization (which may include a combination or exchange of stock, spin-off or other corporate divestiture or division, or other similar occurrences), Merger/Sale. Any issue by the Company of stock of any class, or securities convertible into shares of stock of any class, shall not affect, and no adjustment by reason thereof shall be made with respect to, the number, type or price of stock subject to an Award. The grant of an Award pursuant to this Plan shall not affect in any way the right or power of the Company to make adjustments, reclassifications, reorganizations or changes of its capital or business structures or to merge or to consolidate or to dissolve, liquidate or sell, or transfer all or part of its business or assets or engage in any similar transactions.

15. NON-TRANSFERABILITY OF AWARDS; SURVIVING BENEFICIARY.

15.1. All Awards granted under this Plan by their terms shall not be transferable other than by will or by the laws of descent and distribution, unless otherwise determined by the Committee or under this Plan, provided that with respect to Shares issued upon exercise or (if applicable) the vesting of Awards the restrictions on transfer shall be the restrictions referred to in Section 16 (Conditions upon Issuance of Shares) hereof. Subject to the above provisions, the terms of such Award, this Plan and any applicable Award Agreement shall be binding upon the beneficiaries, executors, administrators, heirs and successors of such Grantee. Awards may be exercised or otherwise realized, during the lifetime of the Grantee, only by the Grantee or by his

guardian or legal representative, to the extent provided for herein. Any transfer of an Award not permitted hereunder (including transfers pursuant to any decree of divorce, dissolution or separate maintenance, any property settlement, any separation agreement or any other agreement with a spouse) and any grant of any interest in any Award to, or creation in any way of any direct or indirect interest in any Award by, any party other than the Grantee shall be null and void and shall not confer upon any party or person, other than the Grantee, any rights. A Grantee may file with the Committee a written designation of a beneficiary, who shall be permitted to exercise such Grantee's Award or to whom any benefit under this Plan is to be paid, in each case, in the event of the Grantee's death before he or she fully exercises his or her Award or receives any or all of such benefit, on such form as may be prescribed by the Committee and may, from time to time, amend or revoke such designation. If no designated beneficiary survives the Grantee, the executor or administrator of the Grantee's estate shall be deemed to be the Grantee's beneficiary. Notwithstanding the foregoing, upon the request of the Grantee and subject to Applicable Law the Committee, at its sole discretion, may permit the Grantee to transfer the Award to a trust whose beneficiaries are the Grantee and/or the Grantee's immediate family members (all or several of them).

15.2. Notwithstanding any other provisions of the Plan to the contrary, no Incentive Stock Option may be sold, transferred, pledged, assigned or otherwise alienated or hypothecated, other than by will or by the laws of descent and distribution or in accordance with a beneficiary designation pursuant to Section 15.1. Further, all Incentive Stock Options granted to a Grantee shall be exercisable during his or her lifetime only by such Grantee.

15.3. As long as the Shares are held by the Trustee in favor of the Grantee, all rights possessed by the Grantee over the Shares are personal, and may not be transferred, assigned, pledged or mortgaged, other than by will or laws of descent and distribution.

15.4. If and to the extent a Grantee is entitled to transfer an Award and/or Shares underlying an Award in accordance with the terms of the Plan and any other applicable agreements, such transfer shall be subject (in addition, to any other conditions or terms applying thereto) to receipt by the Company from such proposed transferee of a written instrument, on a form reasonably acceptable to the Company, pursuant to which such proposed transferee agrees to be bound by all provisions of the Plan and any other applicable agreements, including without limitation, any restrictions on transfer of the Award and/or Shares set forth herein (however, failure to so deliver such instrument to the Company as set forth above shall not derogate from all such provisions applying on any transferee).

15.5. The provisions of this Section 15 shall apply to the Grantee and to any purchaser, assignee or transferee of any Shares.

16. CONDITIONS UPON ISSUANCE OF SHARES; GOVERNING PROVISIONS.

16.1. Legal Compliance. The grant of Awards and the issuance of Shares upon exercise or settlement of Awards shall be subject to compliance with all Applicable Law as determined by the Company, including, applicable requirements of federal, state and foreign law with respect to such securities. The Company shall have no obligations to issue Shares pursuant to the exercise or settlement of an Award and Awards may not be exercised or settled, if the issuance of Shares

upon exercise or settlement would constitute a violation of any Applicable Law as determined by the Company, including, applicable federal, state or foreign securities laws or other law or regulations or the requirements of any stock exchange or market system upon which the Shares may then be listed. In addition, no Award may be exercised unless (i) a registration statement under the Securities Act shall at the time of exercise or settlement of the Award be in effect with respect to the stock issuable upon exercise of the Award, or (ii) in the opinion of legal counsel to the Company, the stock issuable upon exercise of the Award may be issued in accordance with the terms of an applicable exemption from the registration requirements of the Securities Act. The inability of the Company to obtain authority from any regulatory body having jurisdiction, if any, deemed by the Company to be necessary to the lawful issuance and sale of any Shares hereunder, and the inability to issue Shares hereunder due to non-compliance with any Company policies with respect to the sale of Shares, shall relieve the Company of any liability in respect of the failure to issue or sell such Shares as to which such requisite authority or compliance shall not have been obtained or achieved. As a condition to the exercise of an Award, the Company may require the person exercising such Award to satisfy any qualifications that may be necessary or appropriate, to evidence compliance with any Applicable Law or regulation and to make any representation or warranty with respect thereto as may be requested by the Company, including to represent and warrant at the time of any such exercise that the Shares are being purchased only for investment and without any present intention to sell or distribute such Shares, all in form and content specified by the Company.

16.2. Provisions Governing Shares. Shares issued pursuant to an Award shall be subject to the Charter Documents, any limitation, restriction or obligation included in any stockholders agreement applicable to all or substantially all of the holders of stock (regardless of whether or not the Grantee is a formal party to such stockholders agreement) ("Stockholders Agreements"), any other governing documents of the Company, all policies, manuals and internal regulations adopted by the Company from time to time, in each case, as may be amended from time to time, including any provisions included therein concerning restrictions or limitations on disposition of Shares (such as, but not limited to, right of first refusal and lock up/market stand-off) or grant of any rights with respect thereto, forced sale and bring along provisions, any provisions concerning restrictions on the use of inside information and other provisions deemed by the Company to be appropriate in order to ensure compliance with Applicable Law. Each Grantee shall execute (and authorizes any person designated by the Company to so execute) such separate agreement(s) as may be requested by the Company relating to matters set forth in this Section 16.2. The execution of such separate agreement(s) may be a condition by the Company to the exercise of any Award and the Company may exercise its authorization above and sign such agreement on behalf of the Grantee or subject the Grantee to the provisions of such agreements. The proxy pursuant to Section 6.10 includes an authorization of the holder of such proxy to sign, by and on behalf of any Grantee, such documents and agreements.

16.3. Forced Sale. In the event the that Board approves a Merger/Sale effected by way of a forced or compulsory sale (whether pursuant to Applicable Law, the Charter Documents or any Stockholders Agreement), then, without derogating from such provisions and in addition thereto, the Grantee shall be obligated, and shall be deemed to have agreed to the offer to effect the Merger/Sale on the terms approved by the Board (and the Shares held by or for the benefit of the Grantee shall be included in the stock of the Company approving the terms of such Merger/Sale for the purpose of satisfying the required majority), and shall sell all of the Shares held by or for

the benefit of the Grantee on the terms and conditions applying to the holders of Shares, in accordance with the instructions then issued by the Board, whose determination shall be final. No Grantee shall contest, bring any claims or demands, or exercise any appraisal or dissenters' rights related to any of the foregoing. The proxy pursuant to Section 6.10 includes an authorization of the holder of such proxy to sign, by and on behalf of any Grantee, such documents and agreements as are required to affect the sale of Shares in connection with such Merger/Sale and waivers of any contest, claims or demands, or any appraisal or dissenters' rights.

16.4. Data Privacy; Data Transfer. Information related to Grantees and Awards hereunder, as shall be received from Grantee or others, and/or held by, the Company or its Affiliates from time to time, and which information may include sensitive and personal information related to Grantees ("Information"), will be used by the Company or its Affiliates (or third parties appointed by any of them, including the Trustee) to comply with any applicable legal requirement, or for administration of the Plan as they deems necessary or advisable, or for the respective business purposes of the Company or its Affiliates (including in connection with transactions related to any of them). The Company and its Affiliates shall be entitled to transfer the Information among the Company or its Affiliates, and to third parties for the purposes set forth above, which may include persons located abroad (including, any person administering the Plan or providing services in respect of the Plan or in order to comply with legal requirements, or the Trustee, their respective officers, directors, employees and representatives, and the respective successors and assigns of any of the foregoing), and any person so receiving Information shall be entitled to transfer it for the purposes set forth above. The Company shall use commercially reasonable efforts to ensure that the transfer of such Information shall be limited to the reasonable and necessary scope. By receiving an Award hereunder, Grantee acknowledges and agrees that the Information is provided at Grantee's free will and Grantee consents to the storage and transfer of the Information as set forth above.

16.5. Share Transfer Restrictions. Any transfer or other disposition of Shares or any interest therein is subject to the prior approval of the Administrator, which, if granted (without any obligation to do so), may be subject to such terms, conditions and restrictions, as it deems appropriate. The terms, conditions and restrictions of any approval may differ from one Grantee to another, and need not be the same. Any transfer or otherwise grant of any interest in any Shares to any third party that does not comply with this Section shall be null and void and shall not confer upon any person, other than the Grantee, any rights. This Section shall terminate immediately after the underwritten public offering of equity securities of the Company pursuant to an effective registration statement filed under the Securities Act or equivalent law of another jurisdiction and the listing for trading on a stock exchange or market or trading system. This Section shall apply in addition to any other limitation, restriction and/or condition in this Plan (including, without limitation, after the application of the sub-Sections of Section 16 above), any Award Agreement, Stockholders Agreement or other instrument between the Grantee and the Company or by which the Grantee is bound. This Section shall not apply to a transfer of Shares in a sale of all or substantially all of the shares of the Company which was approved by the Board or pursuant to the Charter Documents or Stockholders Agreements, or upon a Merger/Sale.

17. MARKET STAND-OFF.

17.1. In connection with any underwritten public offering of equity securities of the Company pursuant to an effective registration statement filed under the Securities Act or equivalent law of another jurisdiction, the Grantee shall not directly or indirectly, without the prior written consent of the Company or its underwriters, (i) lend, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any Shares or other Awards, any securities of the Company (whether or not such Shares were acquired under this Plan), or any securities convertible into or exercisable or exchangeable (directly or indirectly) for Shares or securities of the Company and any other shares or securities issued or distributed in respect thereto or in substitution thereof (collectively, "Securities"), or (ii) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the Securities, whether any such transaction described in clauses (i) or (ii) is to be settled by delivery of Securities, in cash or otherwise. The foregoing provisions of this Section 17.1 shall not apply to the sale of any stock to an underwriter pursuant to an underwriting agreement. Such restrictions (the "Market Stand-Off") shall be in effect for such period of time (the "Market Stand-Off Period"): (A) following the first public filing of the registration statement relating to the underwritten public offering until the extirpation of 180 days following the effective date of such registration statement relating to the Company's initial public offering or 90 days following the effective date of such registration statement relating to any other public offering, in each case, provided, however, that if (1) during the last 17 days of the initial Market Stand-Off Period, the Company releases earnings results or announces material news or a material event or (2) prior to the expiration of the initial Market Stand-Off Period, the Company announces that it will release earnings results during the 15-day period following the last day of the initial Market Stand-Off Period, then in each case the Market Stand-Off Period will be automatically extended until the expiration of the 18-day period beginning on the date of release of the earnings results or the announcement of the material news or material event; or (B) such other period as shall be requested by the Company or the underwriters. Notwithstanding anything herein to the contrary, if the underwriter(s) and the Company agree on a termination date of the Market Stand-Off Period in the event of failure to consummate a certain public offering, then such termination shall apply also to the Market Stand-Off Period hereunder with respect to that particular public offering.

17.2. In the event of a subdivision of the outstanding capital stock of the Company, the distribution of any securities (whether or not of the Company), whether as bonus shares or otherwise, and whether as dividend or otherwise, a recapitalization, a reorganization (which may include a combination or exchange of stock or a similar transaction affecting the Company's outstanding securities without receipt of consideration), a consolidation, a spin-off or other corporate divestiture or division, a reclassification or other similar occurrence, any new, substituted or additional securities which are by reason of such transaction distributed with respect to any Shares subject to the Market Stand-Off, or into which such Shares thereby become convertible, shall immediately be subject to the Market Stand-Off.

17.3. In order to enforce the Market Stand-Off, the Company may impose stop-transfer instructions with respect to the Shares acquired under this Plan until the end of the applicable Market Stand-Off period.

17.4. The underwriters in connection with a registration statement so filed are intended third party beneficiaries of this Section 17 and shall have the right, power and authority to enforce the provisions hereof as though they were a party hereto. Each Grantee shall execute such separate agreement(s) as may be requested by the Company or the underwriters in connection with such registration statement and in the form required by them, relating to Market Stand-Off (which need not be identical to the provisions of this Section 17, and may include such additional provisions and restrictions as the underwriters deem advisable) or that are necessary to give further effect thereto. The execution of such separate agreement(s) may be a condition by the Company to the exercise of any Award.

17.5. Without derogating from the above provisions of this Section 17 or elsewhere in this Plan, the provisions of this Section 17 shall apply to the Grantee and the Grantee's heirs, legal representatives, successors, assigns, and to any purchaser, assignee or transferee of any Awards or Shares.

18. AGREEMENT REGARDING TAXES; DISCLAIMER.

18.1. If the Committee shall so require, as a condition of exercise of an Award, the release of Shares by the Trustee or the vesting or settlement of an Award, a Grantee shall agree that, no later than the date of such occurrence, the Grantee will pay to the Company (or the Trustee, as applicable) or make arrangements satisfactory to the Committee and the Trustee (if applicable) regarding payment of any applicable taxes and compulsory payments of any kind required by Applicable Law to be withheld or paid.

18.2. TAX LIABILITY. ALL TAX CONSEQUENCES UNDER ANY APPLICABLE LAW WHICH MAY ARISE FROM THE GRANT OF ANY AWARDS OR THE EXERCISE THEREOF, THE SALE OR DISPOSITION OF ANY SHARES GRANTED HEREUNDER OR ISSUED UPON EXERCISE OR (IF APPLICABLE) THE VESTING OF ANY AWARD, THE ASSUMPTION, SUBSTITUTION, CANCELLATION OR PAYMENT IN LIEU OF AWARDS OR FROM ANY OTHER ACTION IN CONNECTION WITH THE FOREGOING (INCLUDING WITHOUT LIMITATION ANY TAXES AND COMPULSORY PAYMENTS, SUCH AS SOCIAL SECURITY OR HEALTH TAX PAYABLE BY THE GRANTEE OR THE COMPANY IN CONNECTION THEREWITH) SHALL BE BORNE AND PAID SOLELY BY THE GRANTEE, AND THE GRANTEE SHALL INDEMNIFY THE COMPANY, ITS SUBSIDIARIES AND AFFILIATES AND THE TRUSTEE, AND SHALL HOLD THEM HARMLESS AGAINST AND FROM ANY LIABILITY FOR ANY SUCH TAX OR PAYMENT OR ANY PENALTY, INTEREST OR INDEXATION THEREON. EACH GRANTEE AGREES TO, AND UNDERTAKES TO COMPLY WITH, ANY RULING, SETTLEMENT, CLOSING AGREEMENT OR OTHER SIMILAR AGREEMENT OR ARRANGEMENT WITH ANY TAX AUTHORITY IN CONNECTION WITH THE FOREGOING WHICH IS APPROVED BY THE COMPANY.

18.3. NO TAX ADVICE. THE GRANTEE IS ADVISED TO CONSULT WITH A TAX ADVISOR WITH RESPECT TO THE TAX CONSEQUENCES OF RECEIVING, EXERCISING OR DISPOSING OF AWARDS HEREUNDER. THE COMPANY DOES NOT ASSUME ANY RESPONSIBILITY TO ADVISE THE GRANTEE ON SUCH MATTERS, WHICH SHALL REMAIN SOLELY THE RESPONSIBILITY OF THE GRANTEE.

18.4. TAX TREATMENT. THE COMPANY DOES NOT UNDERTAKE OR ASSUME ANY LIABILITY OR RESPONSIBILITY TO THE EFFECT THAT ANY AWARD SHALL QUALIFY WITH ANY PARTICULAR TAX REGIME OR RULES APPLYING TO PARTICULAR TAX TREATMENT, OR BENEFIT FROM ANY PARTICULAR TAX TREATMENT OR TAX ADVANTAGE OF ANY TYPE AND THE COMPANY SHALL BEAR NO LIABILITY IN CONNECTION WITH THE MANNER IN WHICH ANY AWARD IS EVENTUALLY TREATED FOR TAX PURPOSES, REGARDLESS OF WHETHER THE AWARD WAS GRANTED OR WAS INTENDED TO QUALIFY UNDER ANY PARTICULAR TAX REGIME OR TREATMENT. THIS PROVISION SHALL SUPERSEDE ANY TYPE OF AWARDS OR TAX QUALIFICATION INDICATED IN ANY CORPORATE RESOLUTION OR AWARD AGREEMENT, WHICH SHALL AT ALL TIMES BE SUBJECT TO THE REQUIREMENTS OF APPLICABLE LAW. THE COMPANY DOES NOT UNDERTAKE AND SHALL NOT BE REQUIRED TO TAKE ANY ACTION IN ORDER TO QUALIFY THE AWARD WITH THE REQUIREMENT OF ANY PARTICULAR TAX TREATMENT AND NO INDICATION IN ANY DOCUMENT TO THE EFFECT THAT ANY AWARD IS INTENDED TO QUALIFY FOR ANY TAX TREATMENT SHALL IMPLY SUCH AN UNDERTAKING. NO ASSURANCE IS MADE BY THE COMPANY OR ANY OF ITS AFFILIATES THAT ANY PARTICULAR TAX TREATMENT ON THE DATE OF GRANT WILL CONTINUE TO EXIST OR THAT THE AWARD WOULD QUALIFY AT THE TIME OF EXERCISE OR DISPOSITION THEREOF WITH ANY PARTICULAR TAX TREATMENT. THE COMPANY AND ITS AFFILIATES SHALL NOT HAVE ANY LIABILITY OR OBLIGATION OF ANY NATURE IN THE EVENT THAT AN AWARD DOES NOT QUALIFY FOR ANY PARTICULAR TAX TREATMENT, REGARDLESS WHETHER THE COMPANY COULD HAVE OR SHOULD HAVE TAKEN ANY ACTION TO CAUSE SUCH QUALIFICATION TO BE MET AND SUCH QUALIFICATION REMAINS AT ALL TIMES AND UNDER ALL CIRCUMSTANCES AT THE RISK OF THE GRANTEE. THE COMPANY DOES NOT UNDERTAKE OR ASSUME ANY LIABILITY TO CONTEST A DETERMINATION OR INTERPRETATION (WHETHER WRITTEN OR UNWRITTEN) OF ANY TAX AUTHORITIES, INCLUDING IN RESPECT OF THE QUALIFICATION UNDER ANY PARTICULAR TAX REGIME OR RULES APPLYING TO PARTICULAR TAX TREATMENT. IF THE AWARDS DO NOT QUALIFY UNDER ANY PARTICULAR TAX TREATMENT IT COULD RESULT IN ADVERSE TAX CONSEQUENCES TO THE GRANTEE.

18.5. The Company or any Subsidiary or other Affiliate thereof may take such action as it may deem necessary or appropriate, in its discretion, for the purpose of or in connection with withholding of any taxes and compulsory payments which the Trustee, the Company or any Subsidiary or other Affiliate thereof is required by any Applicable Law to withhold in connection with any Awards (collectively, "Withholding Obligations"). Such actions may include (i) requiring a Grantees to remit to the Company in cash an amount sufficient to satisfy such Withholding Obligations and any other taxes and compulsory payments, payable by the Company in connection with the Award or the exercise or (if applicable) the vesting thereof; (ii) subject to Applicable Law, allowing the Grantees to provide Shares to the Company, in an amount that at such time, reflects a value that the Committee determines to be sufficient to satisfy such Withholding Obligations; (iii) withholding Shares otherwise issuable upon the exercise of an Award at a value which is determined by the Committee to be sufficient to satisfy such Withholding Obligations; (iv) allowing Grantees to satisfy all or part of the Withholding

Obligations by the delivery (on a form prescribed by the Company) of an irrevocable direction to a securities broker approved by the Company to sell Shares and to deliver all or part of the sales proceeds to the Company or the Trustee or (v) any combination of the foregoing. The Company shall not be obligated to allow the exercise of any Award by or on behalf of a Grantee until all tax consequences arising from the exercise of such Award are resolved in a manner acceptable to the Company.

18.6. Each Grantee shall notify the Company in writing promptly and in any event within ten (10) days after the date on which such Grantee first obtains knowledge of any tax bureau inquiry, audit, assertion, determination, investigation, or question relating in any manner to the Awards granted or received hereunder or Shares issued thereunder and shall continuously inform the Company of any developments, proceedings, discussions and negotiations relating to such matter, and shall allow the Company and its representatives to participate in any proceedings and discussions concerning such matters. Upon request, a Grantee shall provide to the Company any information or document relating to any matter described in the preceding sentence, which the Company, in its discretion, requires.

18.7. With respect to 102 Non-Trustee Options, if the Grantee ceases to be employed by the Company or any Affiliate, the Grantee shall extend to the Company and/or its Affiliate with whom the Grantee is employed a security or guarantee for the payment of taxes due at the time of sale of Shares, all in accordance with the provisions of Section 102 of the Ordinance and the Rules.

18.8. For the purpose hereof "tax(es)" means (a) all federal, state, local or foreign taxes, charges, fees, imposts, levies or other assessments, including all income, capital gains, transfer, withholding, payroll, employment, social security, national security, health tax, wealth surtax, stamp, registration and estimated taxes, customs duties, fees, assessments and charges of any similar kind whatsoever (including under Section 280G of the Code), (b) all interest, indexation differentials, penalties, fines, additions to tax or additional amounts imposed by any taxing authority in connection with any item described in clause (a), (c) any transferee or successor liability in respect of any items described in clauses (a) or (b) payable by reason of contract, assumption, transferee liability, successor liability, operation of Applicable Law, or as a result of any express or implied obligation to assume Taxes or to indemnify any other person, and (d) any liability for the payment of any amounts of the type described in clause (a) or (b) payable as a result of being a member of an affiliated, consolidated, combined, unitary or aggregate group for any taxable period, including under U.S. Treasury Regulations Section 1.1502-6(a) (or any predecessor or successor thereof of any analogous or similar provision under Applicable Law) or otherwise.

18.9. If a Grantee makes an election under Section 83(b) of the Code to be taxed with respect to an Award as of the date of transfer of Shares rather than as of the date or dates upon which the Grantee would otherwise be taxable under Section 83(a) of the Code, such Grantee shall deliver a copy of such election to the Company upon or prior to the filing such election with the U.S. Internal Revenue Service. Neither the Company nor any Affiliate shall have any liability or responsibility relating to or arising out of the filing or not filing of any such election or any defects in its construction.

19. RIGHTS AS A STOCKHOLDER; VOTING AND DIVIDENDS.

19.1. Subject to Section 11.4, a Grantee shall have no rights as a stockholder of the Company with respect to any Shares covered by an Award until the Grantee shall have exercised the Award, paid the Exercise Price therefor and becomes the record holder of the subject Shares. In the case of 102 Awards or 3(9) Awards (if such Awards are being held by a Trustee), the Trustee shall have no rights as a stockholder of the Company with respect to the Shares covered by such Award until the Trustee becomes the record holder for such Shares for the Grantee's benefit, and the Grantee shall not be deemed to be a stockholder and shall have no rights as a stockholder of the Company with respect to the Shares covered by the Award until the date of the release of such Shares from the Trustee to the Grantee and the transfer of record ownership of such Shares to the Grantee (provided, however, that the Grantee shall be entitled to receive from the Trustee any cash dividend or distribution made on account of the Shares held by the Trustee for such Grantee's benefit, subject to any tax withholding and compulsory payment). No adjustment shall be made for dividends (ordinary or extraordinary, whether in cash, securities or other property) or distribution of other rights for which the record date is prior to the date on which the Grantee or Trustee (as applicable) becomes the record holder of the Shares covered by an Award, except as provided in Section 14 hereof.

19.2. With respect to all Awards issued in the form of Shares hereunder or upon the exercise or (if applicable) the vesting of Awards hereunder, any and all voting rights attached to such Shares shall be subject to Section 6.10, and the Grantee shall be entitled to receive dividends distributed with respect to such Shares, subject to the provisions of the Charter Documents and any Stockholders Agreement, and subject to any Applicable Law.

19.3. The Company may, but shall not be obligated to, register or qualify the sale of Shares under any applicable securities law or any other Applicable Law.

20. NO REPRESENTATION BY COMPANY.

By granting the Awards, the Company is not, and shall not be deemed as, making any representation or warranties to the Grantee regarding the Company, its business affairs, its prospects or the future value of its Shares. The Company shall not be required to provide to any Grantee any information, documents or material in connection with the Grantee's considering an exercise of an Award. To the extent that any information, documents or materials are provided, the Company shall have no liability with respect thereto. Any decision by a Grantee to exercise an Award shall solely be at the risk of the Grantee.

21. NO RETENTION RIGHTS.

Nothing in this Plan, any Award Agreement or in any Award granted or agreement entered into pursuant hereto shall confer upon any Grantee the right to continue in the employ of, or be in the service of the Company or any Subsidiary or other Affiliate thereof as a Service Provider or to be entitled to any remuneration or benefits not set forth in this Plan or such agreement, or to interfere with or limit in any way the right of the Company or any such Subsidiary or other Affiliate thereof to terminate such Grantee's employment or service (including, any right of the Company or any of its Affiliates to immediately cease the Grantee's employment or service or to shorten all or part

of the notice period, regardless of whether notice of termination was given by the Company or its Affiliates or by the Grantee). Awards granted under this Plan shall not be affected by any change in duties or position of a Grantee, subject to Sections 6.6 through 6.8. No Grantee shall be entitled to claim and the Grantee hereby waives any claim against the Company or any Subsidiary or other Affiliate thereof that he or she was prevented from continuing to vest Awards as of the date of termination of his or her employment with, or services to, the Company or any Subsidiary or other Affiliate thereof. No Grantee shall be entitled to any compensation in respect of the Awards which would have vested had such Grantee's employment or engagement with the Company (or any Subsidiary or other Affiliate thereof) not been terminated.

22. PERIOD DURING WHICH AWARDS MAY BE GRANTED.

Awards may be granted pursuant to this Plan from time to time within a period of ten (10) years from the Effective Date, which period may be extended from time to time by the Board. From and after such date (as extended) no grants of Awards may be made and this Plan shall continue to be in full force and effect with respect to Awards or Shares issued thereunder that remain outstanding.

23. AMENDMENT OF THIS PLAN AND AWARDS.

23.1. The Board at any time and from time to time may suspend, terminate, modify or amend this Plan, whether retroactively or prospectively. Any amendment effected in accordance with this Section shall be binding upon all Grantees and all Awards, whether granted prior to or after the date of such amendment, and without the need to obtain the consent of any Grantee. No termination or amendment of this Plan shall affect any then outstanding Award unless expressly provided by the Board.

23.2. Subject to changes in Applicable Law that would permit otherwise, without the approval of the Company's stockholders, there shall be (i) no increase in the maximum aggregate number of Shares that may be issued under this Plan as Incentive Stock Options (except by operation of the provisions of Section 14.1), (ii) no change in the class of persons eligible to receive Incentive Stock Options, and (iii) no other amendment of this Plan that would require approval of the Company's stockholders under any Applicable Law. Unless not permitted by Applicable Law, if the grant of an Award is subject to approval by stockholders, the date of grant of the Award shall be determined as if the Award had not been subject to such approval. Failure to obtain approval by the stockholders shall not in any way derogate from the valid and binding effect of any grant of an Award, which is not an Incentive Stock Option. Upon approval of an amendment to this Plan by the stockholders of the Company as set forth above, all Incentive Stock Options granted under this Plan on or after such amendment shall be fully effective as if the stockholders of the Company had approved the amendment on the same date.

23.3. The Board or the Committee at any time and from time to time may modify or amend any Award theretofore granted, including any Award Agreement, whether retroactively or prospectively.

24. APPROVAL.

24.1. This Plan shall take effect upon its adoption by the Board (the "Effective Date").

24.2. Solely with respect to grants of Incentive Stock Options, this Plan shall also be subject to stockholders' approval, within one year of the Effective Date, by a majority of the votes cast on the proposal at a meeting or a written consent of stockholders (however, if the grant of an Award is subject to approval by stockholders, the date of grant of the Award shall be determined as if the Award had not been subject to such approval). Failure to obtain such approval by the stockholders within such period shall not in any way derogate from the valid and binding effect of any grant of an Award, except that any Options previously granted under this Plan may not qualify as Incentive Stock Options but, rather, shall constitute Nonqualified Stock Options. Upon approval of this Plan by the stockholders of the Company as set forth above, all Incentive Stock Options granted under this Plan on or after the Effective Date shall be fully effective as if the stockholders of the Company had approved this Plan on the Effective Date.

24.3. 102 Awards are conditional upon the filing with or approval by the ITA, if required, as set forth in Section 9.49. Failure to so file or obtain such approval shall not in any way derogate from the valid and binding effect of any grant of an Award, which is not a 102 Award.

25. RULES PARTICULAR TO SPECIFIC COUNTRIES; SECTION 409A.

25.1. Notwithstanding anything herein to the contrary, the terms and conditions of this Plan may be supplemented or amended with respect to a particular country or tax regime by means of an appendix to this Plan, and to the extent that the terms and conditions set forth in any appendix conflict with any provisions of this Plan, the provisions of such appendix shall govern. Terms and conditions set forth in such appendix shall apply only to Awards granted to Grantees under the jurisdiction of the specific country or such other tax regime that is the subject of such appendix and shall not apply to Awards issued to a Grantee not under the jurisdiction of such country or such other tax regime. The adoption of any such appendix shall be subject to the approval of the Board or the Committee, and if determined by the Committee to be required in connection with the application of certain tax treatment, pursuant to applicable stock exchange rules or regulations or otherwise, then also the approval of the stockholders of the Company at the required majority.

25.2. This Section 25.2 shall only apply to Awards granted to Grantees who are subject to United States Federal income tax.

25.2.1 It is the intention of the Company that no Award shall be deferred compensation subject to Code Section 409A unless and to the extent that the Committee specifically determines otherwise as provided in Section 25.2.2, and the Plan and the terms and conditions of all Awards shall be interpreted and administered accordingly.

25.2.2 The terms and conditions governing any Awards that the Committee determines will be subject to Section 409A of the Code, including any rules for payment or elective or mandatory deferral of the payment or delivery of Shares or cash pursuant thereto, and any rules regarding treatment of such Awards in the event of a Change in Control, shall be set forth in the applicable Award Agreement and shall be intended to comply in all respects with Section 409A of the Code, and the Plan and the terms and conditions of such Awards shall be interpreted and administered accordingly.

25.2.3 The Company shall have complete discretion to interpret and construe the Plan and any Award Agreement in any manner that establishes an exemption from (or compliance with) the requirements of Code Section 409A. If for any reason, such as imprecision in drafting, any provision of the Plan and/or any Award Agreement does not accurately reflect its intended establishment of an exemption from (or compliance with) Code Section 409A, as demonstrated by consistent interpretations or other evidence of intent, such provision shall be considered ambiguous as to its exemption from (or compliance with) Code Section 409A and shall be interpreted by the Company in a manner consistent with such intent, as determined in the discretion of the Company. If, notwithstanding the foregoing provisions of this Section 25.2.3, any provision of the Plan or any such agreement would cause a Grantee to incur any additional tax or interest under Code Section 409A, the Company shall reform such provision in a manner intended to avoid the incurrence by such Grantee of any such additional tax or interest; provided that the Company shall maintain, to the extent reasonably practicable, the original intent and economic benefit to the Grantee of the applicable provision without violating the provisions of Code Section 409A.

25.2.4 Notwithstanding any other provision in the Plan, any Award Agreement, or any other written document establishing the terms and conditions of an Award, if any Grantee is a "specified employee," within the meaning of Section 409A of the Code, as of the date of his or her "separation from service" (as defined under Section 409A of the Code), then, to the extent required by Treasury Regulation Section 1.409A-3(i)(2) (or any successor provision), any payment made to such Grantee on account of his or her separation from service shall not be made before a date that is six months after the date of his or her separation from service. The Committee may elect any of the methods of applying this rule that are permitted under Treasury Regulation Section 1.409A-3(i)(2)(ii) (or any successor provision).

25.2.5 Notwithstanding any other provision of this Section 25.2 to the contrary, although the Company intends to administer the Plan so that Awards will be exempt from, or will comply with, the requirements of Code Section 409A, the Company does not warrant that any Award under the Plan will qualify for favorable tax treatment under Code Section 409A or any other provision of federal, state, local, or non-United States law. The Company shall not be liable to any Grantee for any tax, interest, or penalties the Grantee might owe as a result of the grant, holding, vesting, exercise, or payment of any Award under the Plan.

26. GOVERNING LAW; JURISDICTION.

This Plan and all determinations made and actions taken pursuant hereto shall be governed by the laws of the State of Delaware, except with respect to matters that are subject to tax laws, regulations and rules of any specific jurisdiction, which shall be governed by the respective laws, regulations and rules of such jurisdiction. Certain definitions, which refer to laws other than the laws of such jurisdiction, shall be construed in accordance with such other laws. By signing any Award Agreement or any other agreement relating to an Award, each Grantee irrevocably submits to such exclusive jurisdiction.

27. NON-EXCLUSIVITY OF THIS PLAN.

The adoption of this Plan shall not be construed as creating any limitations on the power or authority of the Company to adopt such other or additional incentive or other compensation arrangements of whatever nature as the Company may deem necessary or desirable or preclude or limit the continuation of any other plan, practice or arrangement for the payment of compensation or fringe benefits to employees generally, or to any class or group of employees, which the Company or any Affiliate now has lawfully put into effect, including any retirement, pension, savings and stock purchase plan, insurance, death and disability benefits and executive short-term or long-term incentive plans.

28. MISCELLANEOUS.

28.1. Survival. The Grantee shall be bound by and the Shares issued upon exercise or (if applicable) the vesting of any Awards granted hereunder shall remain subject to this Plan after the exercise or (if applicable) the vesting of Awards, in accordance with the terms of this Plan, whether or not the Grantee is then or at any time thereafter employed or engaged by the Company or any of its Affiliates.

28.2. Additional Terms. Each Award awarded under this Plan may contain such other terms and conditions not inconsistent with this Plan as may be determined by the Committee, in its sole discretion.

28.3. Fractional Shares. No fractional Share shall be issuable upon exercise or vesting of any Award and the number of Shares to be issued shall be rounded down to the nearest whole Share, with in any Share remaining at the last vesting date due to such rounding to be issued upon exercise at such last vesting date.

28.4. Severability. If any provision of this Plan, any Award Agreement or any other agreement entered into in connection with an Award shall be determined to be illegal or unenforceable by any court of law in any jurisdiction, the remaining provisions hereof and thereof shall be severable and enforceable in accordance with their terms, and all provisions shall remain enforceable in any other jurisdiction. In addition, if any particular provision contained in this Plan, any Award Agreement or any other agreement entered into in connection with an Award shall for any reason be held to be excessively broad as to duration, geographic scope, activity or subject, it shall be construed by limiting and reducing such provision as to such characteristic so that the provision is enforceable to fullest extent compatible with Applicable Law as it shall then appear.

28.5. Captions and Titles. The use of captions and titles in this Plan or any Award Agreement or any other agreement entered into in connection with an Award is for the convenience of reference only and shall not affect the meaning or interpretation of any provision of this Plan or such agreement.

28.6. Limitations Applicable to Section 16 Persons. Notwithstanding any other provision of the Plan, the Plan and any Award granted or awarded to any individual who is then subject to Section 16 of the Exchange Act shall be subject to any additional limitations set forth in any applicable exemptive rule under Section 16 of the Exchange Act (including Rule 16b-3 of the Exchange Act and any amendments thereto) that are requirements for the application of such

exemptive rule. To the extent permitted by Applicable Law, the Plan and Awards granted or awarded hereunder shall be deemed amended to the extent necessary to conform to such applicable exemptive rule.

28.7. Prohibition on Executive Officer Loans. Notwithstanding any other provision of the Plan to the contrary, no Grantee who is a member of the Board or an "executive officer" of the Company within the meaning of Section 13(k) of the Exchange Act shall be permitted to make payment with respect to any Awards granted under the Plan, or continue any extension of credit with respect to such payment, with a loan from the Company or a loan arranged by the Company in violation of Section 13(k) of the Exchange Act.

28.8. Clawback Provisions. All Awards (including the gross amount of any proceeds, gains or other economic benefit the Grantee actually or constructively receives upon receipt or exercise of any Award or the receipt or resale of any Shares underlying the Award) will be subject to recoupment by the Company to the extent required to comply with Applicable Law or any policy of the Company providing for the reimbursement of incentive compensation, whether or not such policy was in place at the time of grant of an Award.

* * *

NOTICE OF OPTION GRANT

You have been granted the following options (the "Options" or "Award") to purchase shares of Common Stock, par value US$0.01 each (the "Shares"), of Ayala Pharmaceuticals, Inc. (the "Company"), pursuant and subject to the terms and conditions of the Company's 2017 Stock Incentive Plan, a copy of which is attached hereto as **Exhibit A** (as may be amended from time to time, the "Plan"), and the additional terms and conditions contained herein. *Unless otherwise defined, capitalized terms used herein shall have the meaning ascribed to them under the Plan.*

Grantee: «Grantee»

Date of Grant: «Date»

such date being subject to Section 9.4 of the Plan and Section 10.2 of the Option Agreement.

Intended Type of Award: (✓*check one*):

____ Incentive Stock Option (U.S.)

____ Nonqualified Stock Option (U.S.)

____ Option designated as 102 Capital Gains Track Award (with Trustee) (Israel)

____ Option designated as 102 Ordinary Income Track Award (with Trustee) (Israel)

____ Option designated as 102 Non-Trustee Award (Israel)

____ Option designated as 3(9) Award (Israel)

____ Other

the above being subject to Section 9 of the Option Agreement, Section 18.4 of the Plan and applicable law.

Exercise Price: «Exercise_Price» per Share

Number of Shares underlying the Options: «Number_of_Shares»

Vesting Schedule: Subject to the terms of the Plan (including Sections 6.6, 6.7 and 6.8 thereof), the Options shall vest and become exercisable under the following schedule: *«Vesting»*

Exercise Period: The date determined in accordance with and subject to Section 7 of the Option Agreement and the provisions of the Plan.

The Options are governed by this Notice (as defined below) and by the provisions of the Plan and the Option Agreement, both of which are attached to and made an integral part of this Notice. By signing the Option Agreement, the Grantee acknowledges receipt of copies of the Plan and the Option Agreement, represents that the Grantee read and is familiar with their provisions, and hereby accepts the Options subject to all of their terms and conditions. Notwithstanding anything to the contrary, the Options and the terms hereof supersede, replace and terminate any promise or other right in connection with the capital stock of the Company, which you have or may have pursuant to any service, employment or other agreement with the Company or any Subsidiary (without, however, affecting any currently outstanding shares of the Company (or options therefor), if any, which were previously issued (or granted) to you).

OPTION AGREEMENT

The Company has granted to the Grantee named in the Notice of Option Grant to which this Option Agreement (this "Agreement") is attached (the "Notice"), Options upon the terms and conditions set forth in the Notice and this Agreement. The Options have been granted pursuant to and shall in all respects be subject to the terms and conditions of the Notice, this Agreement and the Plan, the provisions of which are incorporated herein by reference and made an integral part of this Agreement. *Unless otherwise defined, capitalized terms used herein shall have the meaning ascribed to them under the Plan.*

By signing this Agreement, the Grantee: (a) represents that the Grantee has received copies of, and has read and is familiar with the terms and conditions of, the Notice, the Plan and this Agreement, (b) accepts the Options and agrees that the Options and the Shares issued upon the exercise thereof and/or any securities issued or distributed with respect thereto are subject to all of the terms and conditions of the Notice, the Plan, this Agreement, the Trust Agreement (as defined below) and any other documents ancillary hereto or thereto, and (c) agrees to accept as binding, conclusive and final all decisions and interpretations of the Board or the Committee upon any questions arising under the Notice, the Plan or this Agreement (whether before or after the issuance of Shares pursuant to the Options). While certain terms and conditions are included in this Agreement, such terms and conditions shall not in any way derogate from the applicability of all other terms and conditions set forth in the Plan. The Grantee acknowledges that the terms and conditions of the Plan may be amended from time to time as set forth therein, and therefore, any reference to the Plan shall be deemed to refer to the Plan as amended from time to time, including any amendments adopted after the date of grant. Unless otherwise stated, in the event of any inconsistency or contradiction between any of the terms of this Agreement and the provisions of the Plan, the terms and provisions of this Agreement shall prevail.

1. **No Disposition of Options**. The Options shall not be sold, pledged or otherwise transferred (whether by operation of law or otherwise, including, without limitation, transfers pursuant to any decree of divorce, dissolution or separate maintenance, any property settlement, any separation agreement or any other agreement with a spouse), and shall not be subject to sale under execution, attachment, levy or similar process (each of the foregoing, a "Transfer") other than by will or by the laws of descent and distribution.

2. **Issuance and Disposition of Shares**.

2.1. Legal Compliance. The Company shall have no obligations to issue Shares pursuant to the exercise or settlement of Options and Options may not be exercised or settled (even if vested), if the issuance of Shares upon exercise or settlement would constitute a violation of any Applicable Laws as determined by the Company, including, applicable federal, state or foreign securities laws or other law or regulations or the requirements of any stock exchange or market system upon which the Shares may then be listed. THE GRANTEE IS CAUTIONED THAT THE OPTIONS MAY NOT BE EXERCISED UNLESS THE FOREGOING CONDITIONS AND THOSE SET FORTH IN THE PLAN ARE SATISFIED. ACCORDINGLY, THE GRANTEE MAY NOT BE ABLE TO EXERCISE THE OPTIONS WHEN DESIRED EVEN THOUGH THE OPTION IS VESTED.

2.2. Provisions Governing Shares. Shares issued upon exercise of Options shall be subject to the restrictions referred to in Section 16 ('Conditions upon Issuance of Shares; Governing Provisions') of the Plan and in this Agreement, the Charter Documents, any limitation, restriction or obligation included in any Stockholders Agreement applicable to all or substantially all of the holders of Shares (regardless of whether or not the Grantee is a formal party to such Stockholders Agreement), any other governing documents of the Company, and all policies, manuals and internal regulations adopted by the Company from time to time, in each case, as may be amended from time to time, including, without limitation, any provisions included therein concerning restrictions or limitations on disposition of Shares (such as, but not limited to, right of first refusal and lock-up/market stand-off) or grant of any rights with respect thereto, forced sale and bring along provisions, any provisions concerning a restrictions on the use of inside information and other provisions deemed by the Company to be appropriate in order to ensure compliance with Applicable Laws and with the requirements of any transaction entered into or proposed to be entered into by the Company. By exercising an Option the Grantee is deemed to have undertaken to comply with all the foregoing provisions. The Grantee shall execute (and authorizes any person designated by the Company to so execute, as well as (if applicable) the Trustee holding any Shares for the Grantee's behalf) such separate agreement(s) as may be requested by the Company relating to matters set forth in or otherwise for the purpose of implementing this Section 2.2. The execution of

such separate agreement(s) may be a condition by the Company to the exercise of any Award and the Company (and, if applicable, the Trustee) may exercise its authorization above and sign such agreement on behalf of the Grantee or subject the Grantee to the provisions of such agreements.

2.3. Share Purchase Transactions; Forced Sale. In the event that the Board approves a Merger/Sale effected by way of a forced or compulsory sale (whether pursuant to the Charter Documents, pursuant to any Stockholders Agreement or otherwise), then, without derogating from such provisions and in addition thereto, the Grantee agrees to the offer to effect the Merger/Sale (and that the Shares held by or for the benefit of the Grantee shall be included in the capital stock of the Company approving the terms of such Merger/Sale for the purpose of satisfying the required majority), and to sell all of the Shares held by or for the benefit of the Grantee on the terms and conditions applying to the holders of Shares, in accordance with the instructions then issued by the Board (if applicable), whose determination shall be final. The Grantee agrees not to contest, bring any claims or demands, or exercise any appraisal rights related to any of the foregoing. The Grantee shall execute (and authorizes any person designated by the Company to so execute, as well as (if applicable) the Trustee holding any Shares for the Grantee's behalf) such documents and agreements, as may be requested by the Company relating to matters set forth in or otherwise for the purpose of implementing this Section 2.3. The execution of such separate agreement(s) may be a condition by the Company to the exercise of any Award and the Company (and, if applicable, the Trustee) may exercise its authorization above and sign such agreement on behalf of the Grantee or subject the Grantee to the provisions of such agreements. In addition, in order to effect the sale of Shares or other legal transactions or actions required to complete such Merger/Sale, the Grantee hereby irrevocably and unconditionally appoints and empowers the Company and any person designated for such purpose by the Board, with full power of substitution, as the Grantee's proxy to exercise or fail to exercise, in such proxy holder's sole and absolute discretion, any rights or obligations attached to any and all Shares, including without limitation rights and waivers associated with general meetings of the shareholders of the Company, and sign on the Grantee's behalf any document or instrument relating to such rights or obligations, if any, or Merger/Sale, whether by law or included in the incorporation documents of the Company or any other document, agreement or instrument as shall be from time to time, as are required to affect the sale of Shares in connection with such Merger/Sale.

2.4. Waiver. As a material precondition to the Company's grant of Options and issuance of any Shares under the Plan, the Grantee hereby irrevocably waives any right of first refusal, pre-emptive, co-sale, participation rights or other similar rights with respect to any prior or future Transfer of any shares in the Company by other stockholder or the issuance of securities by the Company, if such right was so provided in any agreement between the Company and any of its stockholders, in the Charter Documents or in any other governing document of the Company. The Grantee acknowledges and agrees that the Company and its stockholders are entitled to rely on this irrevocable waiver.

2.5. Additional or Substituted Securities. In the event that in connection with the declaration of a stock dividend (bonus shares), a stock split, a reverse stock split, a reorganization (which may include a combination or exchange of shares), a consolidation, a spin-off or other corporate divestiture or division, a recapitalization, a reclassification or other similar occurrence affecting the Company's outstanding securities without receipt of consideration (or in consideration for the par value, if shares bear par value), any new, substituted or additional securities or other property (other than cash dividend) are distributed by reason of such occurrence with respect to any Shares which are subject to this Section 2, or into which such Shares thereby become convertible, then such substituted or additional securities or other property (if distributed) shall immediately be subject to this Section 2. Any adjustments to reflect the distribution of such securities or other property shall be conclusively determined by the Company. The terms and conditions contained herein and in the Plan in respect of the Options and/or the Shares shall apply to any new, substituted or additional securities or other property resulting from the above adjustments.

2.6. Data Privacy; Data Transfer. Information related to the Grantee and Award(s) hereunder, as shall be received from Grantee or others, and/or held by, the Company or its Affiliates from time to time, and which information may include sensitive and personal information related to the Grantee ("Information"), will be used by the Company or its Affiliates (or third parties appointed by any of them, including the Trustee) to comply with any applicable legal requirement, or for administration of the Plan as they deems necessary or advisable, or for the respective business purposes of the Company or its Affiliates (including in connection with transactions related to any of them). The Company and its Affiliates shall be entitled to transfer the Information among the Company or its Affiliates and to third parties for the purposes set forth above, which may include persons located abroad (including, any person administering the Plan or providing services in

respect of the Plan or in order to comply with legal requirements, or the Trustee, their respective officers, directors, employees and representatives, and the respective successors and assigns of any of the foregoing), and any person so receiving Information shall be entitled to transfer it for the purposes set forth above. The Company shall use commercially reasonable efforts to ensure that the transfer of such Information shall be limited to the reasonable and necessary scope. By receiving an Award hereunder, Grantee acknowledges and agrees that the Information is provided at Grantee's free will and that Grantee hereby consents to the storage and transfer of the Information as set forth above.

3. **Exercise Procedures**.

3.1. The Grantee may exercise Options that have become exercisable by giving a signed written notice to the Company, delivered in person or by mail (or such other methods of delivery prescribed by the Company) to the Chief Financial Officer of the Company, or, if no such officer is then incumbent, to the Chief Executive Officer of the Company or to such other person as determined by the Committee, or in any other manner as the Committee shall prescribe from time to time. The exercise notice shall be in a form prescribed by the Company from time to time. The Grantee shall specify in the notice the election to exercise Options, the number of Shares for which it is being exercised (which may be equal to or lower than the aggregate number of Shares that have become exercisable at such time, subject to the last sentence of this Section), accompanied by payment of the aggregate Exercise Price for such Shares in the manner permitted by the Plan. In the event that Options are being exercised by the representative of the Grantee, if permitted under the Plan, the notice shall be accompanied by proof (satisfactory to the Company) of the representative's right to exercise such Options.

3.2. After receiving a proper and duly executed notice of exercise in the form prescribed by the Company, the Company shall cause to be issued a certificate or certificates for the Shares as to which the Options have been exercised, registered in the name of the person exercising such Options, except that in case of Options designated as 102 Trustee Awards, the Shares shall be issued to and in the name of the Trustee for the benefit of the Grantee. The issuance shall be subject to the payment of any and all applicable taxes and compulsory payments by the Grantee. Subject to Section 19 of the Plan, the Grantee shall have no rights as a stockholder with respect to any Shares subject to Options until the Grantee shall have duly exercised the Options, paid the full Exercise Price therefor, if required, paid all applicable taxes and compulsory payments therefor and becomes the record holder of the subject Shares.

3.3. Without derogating from the provision of the Plan, in the event that the Company or, with respect to 102 Trustee Awards, the Trustee, determines that it is required to withhold any tax as a result of the exercise of Options, the Grantee, as a condition to the exercise of Options, shall make arrangements satisfactory to the Company and the Trustee, if applicable, to enable it to satisfy all withholding requirements. The Grantee shall also make arrangements satisfactory to the Company and the Trustee, if applicable, to enable it to satisfy any withholding requirements that may arise in connection with the vesting or disposition of Shares acquired pursuant to the grant of an Option under the Plan. Furthermore, the Grantee shall indemnify the Company and the Trustee, if applicable, and hold them harmless against and from any and all liability for any such tax or interest or penalty thereon, including without limitation, liabilities relating to withholding.

4. **Payment of Exercise Price**. The Exercise Price shall be paid in cash or in such other manner as determined in accordance with the Plan.

5. **Repurchase Right**. Grantee agrees that all Shares issued pursuant to the exercise of the Options shall be subject to certain repurchase rights in favor of the Company or its assigns as provided in the Plan.

6. **Legend**. The Company may at any time place legends referencing any restriction imposed on the Shares (including, without limitation, any right of first refusal and right of repurchase) and any applicable federal, state or foreign securities law restrictions on all certificates representing Shares subject to the provisions of this Agreement. The Grantee shall, at the request of the Company, promptly present to the Company any and all certificates representing Shares acquired pursuant to Options in the possession of the Grantee in order to carry out the provisions of this Section 6. Unless otherwise specified by the Company, legends placed on such certificates may include, but shall not be limited to, the following:

6.1. THE SHARES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO THE COMPANY'S CERTIFICATE OF INCORPORATION, THE COMPANY'S BYLAWS, THE COMPANY'S STOCK INCENTIVE PLAN AND THE OPTION AGREEMENT WITH THE COMPANY, EACH AS AMENDED FROM TIME TO TIME, A COPY OF WHICH IS ON FILE AT THE PRINCIPAL OFFICE OF THIS COMPANY.

7. **Term and Expiration**. The Options shall expire in accordance with the Plan, including in case the Grantee's employment or service terminates for any reason.

8. **Tax Matters and Consultation**.

8.1. THE GRANTEE IS ADVISED TO CONSULT WITH A TAX ADVISOR WITH RESPECT TO THE TAX CONSEQUENCES OF RECEIVING OR EXERCISING OPTIONS HEREUNDER. THE COMPANY DOES NOT ASSUME ANY RESPONSIBILITY TO ADVISE THE GRANTEE ON SUCH MATTERS, WHICH SHALL REMAIN SOLELY THE RESPONSIBILITY OF THE GRANTEE. Without derogating from Section 18 of the Plan, and notwithstanding anything to the contrary, including the indication under "Intended Type of Award" above, the Company shall be under no duty to ensure, and no representation or commitment is made, that the Options qualify or will qualify under any particular tax treatment (such as Section 102, ISO or any other treatment), nor shall the Company be required to take any action for the qualification of any Option under such tax treatment. If the Options do not qualify under any particular tax treatment it could result in adverse tax consequences to the Grantee. By signing below, Grantee agrees that the Company and its Affiliates and their respective employees, directors, officers and stockholders shall not be liable for any tax, penalty, interest or cost incurred by Grantee as a result of such determination, nor will any of them have any liability of any kind or nature in the event that, for any reason whatsoever, an Option does not qualify for any particular tax treatment.

8.2. Without limitation of the foregoing, with respect to Options designated as Incentive Stock Option and Options designated as Nonqualified Stock Option, there is no guarantee that the Internal Revenue Service ("IRS") will determine that the Exercise Price of these Options represents the fair market value thereof as of the Date of Grant in compliance with the requirements of Section 409A of the Code. If the IRS determines that the Exercise Price is less than such fair market value it could result in adverse tax consequences to Grantee.

8.3. In case of Incentive Stock Options, adjustments made pursuant to the Plan with respect to Incentive Stock Options could constitute a "modification" of such Incentive Stock Options (as that term is defined in Section 424(h) of the Code) or could cause adverse tax consequences for the Grantee and the Grantee should consult with his or her tax advisor regarding the consequences of such "modification" on his or her income tax treatment with respect to the Incentive Stock Option.

9. **Section 102 Awards**.

9.1. Eligibility for Awards. Subject to Applicable Law, 102 Awards may only be granted to an "employee" within the meaning of Section 102(a) of the Ordinance (which as of the date hereof means (i) individuals employed by an Israeli company that is a Company's Affiliate, and (ii) individuals who are serving and are engaged personally (and not through an entity) as "office holders" by such an Israeli company), but may not be granted to a Controlling Stockholder ("Eligible 102 Grantees"). Eligible 102 Grantees may receive only 102 Awards, which may either be granted to a Trustee or granted under Section 102 of the Ordinance without a Trustee.

9.2. 102 Award Grant Date.

9.2.1. Each 102 Award will be deemed granted on the date determined by the Committee, subject to Section 10.2.2, provided that (i) the Grantee has signed all documents required by the Company or pursuant to Applicable Law, and (ii) with respect to 102 Trustee Awards, the Company has provided all applicable documents to the Trustee in accordance with the guidelines published by the ITA, and if this Agreement is not signed and delivered by the Grantee within 90 days from the date determined by the Committee (subject to Section 10.2.2), then such 102 Trustee Award shall be deemed granted on such later date as this Agreement is signed and delivered and on which the Company has provided all applicable documents to the Trustee in accordance with the guidelines published by the ITA. In the case of any contradiction, this provision and the date of grant determined pursuant hereto shall supersede and be deemed to amend any date of grant indicated in the Notice or in any corporate resolution or any agreement.

9.2.2. Unless otherwise permitted by the Ordinance, any grants of 102 Trustee Awards that are made on or after the date of the adoption of the Plan or an amendment to the Plan, as the case may be, that may become effective only at the expiration of thirty (30) days after the filing of the Plan or any amendment thereof (as the case may be) with the ITA in accordance with the Ordinance shall be conditional

upon the expiration of such 30-day period, such condition shall be read and is incorporated by reference into any corporate resolutions approving such grants and into this Agreement and any agreement evidencing such grants (whether or not explicitly referring to such condition), and the date of grant shall be at the expiration of such 30-day period, whether or not the date of grant indicated therein corresponds with this Section 10.2. In the case of any contradiction, this provision and the date of grant determined pursuant hereto shall supersede and be deemed to amend any date of grant indicated in the Notice or in any corporate resolution or any agreement.

9.3. To the extent and with respect to 102 Trustee Awards, the Grantee acknowledges, undertakes and confirms that: (i) the Grantee fully understands that Section 102 of the Ordinance and the rules and regulations enacted thereunder apply to the Options and the Shares issued upon exercise thereof, and (ii) the Grantee understands the provisions of Section 102 of the Ordinance, the tax track chosen thereunder and the implications thereof. If applicable, the terms of such Options and the Shares issued upon exercise thereof shall also be subject to the terms of the Trust Agreement made between the Company and the Trustee for the benefit of the Grantee (as amended, the "Trust Agreement"), and the Grantee shall sign all documents requested by the Company or the Trustee, in accordance with and under the Trust Agreement. ***A copy of the Trust Agreement is available for the Grantee's review, during normal working hours, at the Company's offices***.

9.4. Grantee Undertaking. Without derogating from the generality of the foregoing, to the extent and with respect to any Options that are 102 Capital Gain Track Awards, and as required by Section 102 of the Ordinance and the Rules, the Grantee acknowledges, undertakes and confirms in writing the following (which shall be apply and relate to all Awards granted to the Grantee, whether under the Plan or other plans maintained by the Company, and whether prior to or after the date hereof, if any):

9.4.1. The Grantee shall comply with all terms and conditions set forth in Section 102 of the Ordinance with regard to the "Capital Gain Track" and the applicable rules and regulations promulgated thereunder, as amended from time to time;

9.4.2. The Grantee is familiar with, and understands the provisions of, Section 102 of the Ordinance in general, and the tax arrangement under the "Capital Gain Track" in particular, and its tax consequences; the Grantee agrees that the Options and Shares that may be issued upon exercise of the Options (or otherwise in relation to the Options), will be held by a trustee appointed pursuant to Section 102 of the Ordinance for at least the duration of the Holding Period, as defined in Section 102 under the "Capital Gain Track". The Grantee understands that any release of such Options or Shares from trust, or any sale of the Shares prior to the termination of the Holding Period, will result in taxation at marginal tax rates, in addition to deductions of appropriate social security, health tax contributions or other compulsory payments; and

9.4.3. The Grantee agrees to the trust agreement signed between the Company, his/her employing company, and the trustee appointed pursuant to Section 102 of the Ordinance and shall sign all documents requested by the Company or the Trustee, in accordance with and under the trust agreement.

10. **Plan Termination or Amendment.** The Board may terminate or amend the Plan or the Options at any time, subject to the Plan and any such amendment shall apply to the Grantee and this Option Agreement (including the Options and Shares issuable or issued pursuant thereto), without any required consent of the Grantee. Except as set forth above, this Agreement shall not be amended without the consent of the parties hereto.

11. **Miscellaneous**.

11.1. Further Assurances. The Grantee shall perform such further acts and execute such further documents as may reasonably be necessary by the Company to carry out and give full effect to the provisions of this Agreement and the Plan.

11.2. Fractional Shares. No fractional Share shall be issuable upon exercise or vesting of any Options and the number of Shares to be issued shall be rounded down to the nearest whole Share, with any Share remaining at the last vesting date due to such rounding to be issued upon (and subject to) an exercise at such last vesting date.

11.3. Entire Agreement. This Agreement (together with the Notice and all Exhibits) and the Plan constitutes the full and entire understanding and agreement between the parties with regard to the subject matters hereof and thereof, and supersede all prior agreements and understandings, both written and oral (with no concession being made as to the existence of any such agreements and understandings).

11.4. Governing Law; Jurisdiction. This Agreement shall be governed by and construed according to the laws of Delaware, without regard to any applicable conflict of law principles which may result in the application of the law of any other jurisdiction, except with respect to matters that are subject to tax laws, regulations and rules of any specific jurisdiction, which shall be governed by the respective laws, regulations and rules of such jurisdiction. Certain definitions, which refer to laws other than the laws of such jurisdiction, shall be construed in accordance with such other laws. By signing this Agreement the Grantee hereby irrevocably submits to the exclusive jurisdiction of the Delaware Court of Chancery (and if jurisdiction in the Delaware Court of Chancery shall be unavailable, the Federal courts of the United States of America sitting in the State of Delaware), and any appellate court from any of the foregoing.

11.5. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original and enforceable against the parties, and all of which together shall be considered one and the same agreement, it being understood that all parties need not sign the same counterpart. The exchange of an executed Agreement (in counterparts or otherwise) by facsimile transmission, electronic transmission or electronic signature shall be sufficient to bind the parties to the terms and conditions of this Agreement, as an original.

- Signature Pages Following -

IN WITNESS WHEREOF, the parties have duly executed and delivered this OPTION AGREEMENT as of the date last written below.

Grantee:	Ayala Pharmaceuticals, Inc.
«Grantee»	By: Name: Title:

[Signature Page to Option Agreement/ «Date»]

EXHIBIT A – THE PLAN

as of the date hereof, subject to further amendments

NOTICE OF RESTRICTED STOCK GRANT

You have been granted the following restricted shares of Common Stock, par value US$0.01 each (the "Shares" and the "Restricted Stock" or "Award", respectively), of Ayala Pharmaceuticals, Inc. (the "Company"), pursuant and subject to the terms and conditions of the Company's 2017 Stock Incentive Plan, a copy of which is attached hereto as Exhibit A (as may be amended from time to time, the "Plan"), and the additional terms and conditions contained herein. *Unless otherwise defined, capitalized terms used herein shall have the meaning ascribed to them under the Plan.*

Grantee: «Grantee»

Date of Grant: «Date»

such date being subject to Section 9.4 of the Plan and Section 9.2 of the Restricted Stock Agreement

Intended Type of Award:

(*✓ check one*):

___ Restricted Stock designated as 102 Capital Gains Track Award (with Trustee) (Israel)

___ Restricted Stock designated as 102 Ordinary Income Track Award (with Trustee) (Israel)

___ Restricted Stock designated as 102 Non-Trustee Award (Israel)

___ Restricted Stock designated as 3(9) Award (Israel)

___ Other

the above being subject to Section 8 of the Restricted Stock Agreement, Section 18.4 of the Plan and applicable law.

Exercise Price (Purchase/Settlement Price): US$ «Exercise_Price» per share of Restricted Stock

Number of Shares underlying the Award: «Number_of_Shares»

Vesting Schedule (Restricted Period): Subject to the terms of the Plan (including Sections 6.6, 6.7 and 6.8 thereof), the Restricted Stock shall vest under the following schedule: *«Vesting»*.

Exercise Period (Settlement Period): The date determined in accordance with and subject to Section 6 of the Restricted Stock Agreement and the provisions of the Plan

The Restricted Stock is governed by this Notice (as defined below) and by the provisions of the Plan and the Restricted Stock Agreement, both of which are attached to and made an integral part of this Notice. By signing the Restricted Stock Agreement, the Grantee acknowledges receipt of copies of the Plan and the Restricted Stock Agreement, represents that the Grantee read and is familiar with their provisions, and hereby accepts the Restricted Stock subject to all of its terms and conditions. Notwithstanding anything to the contrary, the Restricted Stock and the terms hereof supersede, replace and terminate any promise or other right in connection with the capital stock of the Company, which you have or may have pursuant to any service, employment or other agreement with the Company or any Subsidiary (without, however, affecting any currently outstanding shares of the Company (or options therefor), if any, which were previously issued (or granted) to you).

RESTRICTED STOCK AGREEMENT

The Company has granted to the Grantee named in the Notice of Restricted Stock Grant to which this Restricted Stock Agreement (this "Agreement") is attached (the "Notice"), Restricted Stock upon the terms and conditions set forth in the Notice and this Agreement. The Restricted Stock has been granted pursuant to and shall in all respects be subject to the terms and conditions of the Notice, this Agreement and the Plan, the provisions of which are incorporated herein by reference and made an integral part of this Agreement. *Unless otherwise defined, capitalized terms used herein shall have the meaning ascribed to them under the Plan.*

By signing this Agreement, the Grantee: (a) represents that the Grantee has received copies of, and has read and is familiar with the terms and conditions of, the Notice, the Plan and this Agreement, (b) accepts the Restricted Stock and agrees that the Restricted Stock and the Shares issued upon the settlement thereof and/or any securities issued or distributed with respect thereto are subject to all of the terms and conditions of the Notice, the Plan, this Agreement, the Trust Agreement (as defined below) and any other documents ancillary hereto or thereto, and (c) agrees to accept as binding, conclusive and final all decisions and interpretations of the Board or the Committee upon any questions arising under the Notice, the Plan or this Agreement (whether before or after the issuance of Shares pursuant to the Restricted Stock). While certain terms and conditions are included in this Agreement, such terms and conditions shall not in any way derogate from the applicability of all other terms and conditions set forth in the Plan. The Grantee acknowledges that the terms and conditions of the Plan may be amended from time to time as set forth therein, and therefore, any reference to the Plan shall be deemed to refer to the Plan as amended from time to time, including any amendments adopted after the date of grant. Unless otherwise stated, in the event of any inconsistency or contradiction between any of the terms of this Agreement and the provisions of the Plan, the terms and provisions of this Agreement shall prevail.

1. **Issuance and Disposition of Shares**.

1.1. Legal Compliance. The Company shall have no obligations to issue Shares pursuant to the settlement of Restricted Stock and Restricted Stock may not be settled (even if vested), if the issuance of Shares upon settlement would constitute a violation of any Applicable Laws as determined by the Company, including, applicable federal, state or foreign securities laws or other law or regulations or the requirements of any stock exchange or market system upon which the Shares may then be listed. THE GRANTEE IS CAUTIONED THAT THE RESTRICTED STOCK MAY NOT BE SETTLED UNLESS THE FOREGOING CONDITIONS AND THOSE SET FORTH IN THE PLAN ARE SATISFIED. ACCORDINGLY, THE GRANTEE MAY NOT BE ABLE TO SETTLE THE AWARD WHEN DESIRED EVEN THOUGH THE RESTRICTED STOCK IS VESTED.

1.2. Provisions Governing Shares. The Restricted Stock and the Shares issued upon settlement thereof shall be subject to the restrictions referred to in Section 11.2 (Restrictions) and Section 16 ('Conditions upon Issuance of Shares; Governing Provisions') of the Plan and in this Agreement, the Charter Documents, any limitation, restriction or obligation included in any Stockholders Agreement applicable to all or substantially all of the holders of Shares (regardless of whether or not the Grantee is a formal party to such Stockholders Agreement), any other governing documents of the Company, and all policies, manuals and internal regulations adopted by the Company from time to time, in each case, as may be amended from time to time, including, without limitation, any provisions included therein concerning restrictions or limitations on disposition of Shares (such as, but not limited to, right of first refusal and lock-up/market stand-off) or grant of any rights with respect thereto, forced sale and bring along provisions, any provisions concerning a restrictions on the use of inside information and other provisions deemed by the Company to be appropriate in order to ensure compliance with Applicable Laws and with the requirements of any transaction entered into or proposed to be entered into by the Company. By signing this Agreement, the Grantee is deemed to have undertaken to comply with all the foregoing provisions. The Grantee shall execute (and authorizes any person designated by the Company to so execute, as well as (if applicable) the Trustee holding any Shares for the Grantee's behalf) such separate agreement(s) as may be requested by the Company relating to matters set forth in or otherwise for the purpose of implementing this Section 1.2. The execution of such separate agreement(s) may be a condition by the Company to the exercise of any Award and the Company (and, if applicable, the Trustee) may exercise its authorization above and sign such agreement on behalf of the Grantee or subject the Grantee to the provisions of such agreements.

1.3. Share Purchase Transactions; Forced Sale. In the event that the Board approves a Merger/Sale effected by way of a forced or compulsory sale (whether pursuant to the Charter Documents, pursuant to any Stockholders Agreement or otherwise), then, without derogating from such provisions and in addition thereto, the Grantee agrees to the offer to effect the Merger/Sale (and that the Restricted Stock and/or Shares held by or for the benefit of the Grantee shall be included in the capital stock of the Company approving the terms of such Merger/Sale for the purpose of satisfying the required majority), and to sell all of the Restricted Stock and/or the Shares held by or for the benefit of the Grantee on the terms and conditions applying to the holders of Restricted Stock and/or Shares, respectively, in accordance with the instructions then issued by the Board (if applicable), whose determination shall be final. The Grantee agrees not to contest, bring any claims or demands, or exercise any appraisal rights related to any of the foregoing. The Grantee shall execute (and authorizes any person designated by the Company to so execute, as well as (if applicable) the Trustee holding any Shares for the Grantee's behalf) such documents and agreements, as may be requested by the Company relating to matters set forth in or otherwise for the purpose of implementing this Section 2.3. The execution of such separate agreement(s) may be a condition by the Company to the exercise of any Award and the Company (and, if applicable, the Trustee) may exercise its authorization above and sign such agreement on behalf of the Grantee or subject the Grantee to the provisions of such agreements. In addition, in order to effect the sale of Shares or other legal transactions or actions required to complete such Merger/Sale, the Grantee hereby irrevocably and unconditionally appoints and empowers the Company and any person designated for such purpose by the Board, with full power of substitution, as the Grantee's proxy to exercise or fail to exercise, in such proxy holder's sole and absolute discretion, any rights or obligations attached to any and all Shares, including without limitation rights and waivers associated with general meetings of the shareholders of the Company, and sign on the Grantee's behalf any document or instrument relating to such rights or obligations, if any, or Merger/Sale, whether by law or included in the incorporation documents of the Company or any other document, agreement or instrument as shall be from time to time, as are required to affect the sale of Shares in connection with such Merger/Sale.

1.4. Waiver. As a material precondition to the Company's grant of Restricted Stock and issuance of any Shares under the Plan, the Grantee hereby irrevocably waives any right of first refusal, pre-emptive, co-sale, participation rights or other similar rights with respect to any prior or future Transfer of any shares in the Company by other stockholder or the issuance of securities by the Company, if such right was so provided in any agreement between the Company and any of its stockholders, in the Charter Documents or in any other governing document of the Company. The Grantee acknowledges and agrees that the Company and its stockholders are entitled to rely on this irrevocable waiver.

1.5. Additional or Substituted Securities. In the event that in connection with the declaration of a stock dividend (bonus shares), a stock split, a reverse stock split, a reorganization (which may include a combination or exchange of shares), a consolidation, a spin-off or other corporate divestiture or division, a recapitalization, a reclassification or other similar occurrence affecting the Company's outstanding securities without receipt of consideration (or in consideration for the par value, if shares bear par value), any new, substituted or additional securities or other property (other than cash dividend) are distributed by reason of such occurrence with respect to any Shares which are subject to this Section 1, or into which such Shares thereby become convertible, then such substituted or additional securities or other property (if distributed) shall immediately be subject to this Section 1. Any adjustments to reflect the distribution of such securities or other property shall be conclusively determined by the Company. The terms and conditions contained herein and in the Plan in respect of the Restricted Stock and/or the Shares shall apply to any new, substituted or additional securities or other property resulting from the above adjustments.

1.6. Data Privacy; Data Transfer. Information related to the Grantee and Award(s) hereunder, as shall be received from Grantee or others, and/or held by, the Company or its Affiliates from time to time, and which information may include sensitive and personal information related to the Grantee ("Information"), will be used by the Company or its Affiliates (or third parties appointed by any of them, including the Trustee) to comply with any applicable legal requirement, or for administration of the Plan as they deems necessary or advisable, or for the respective business purposes of the Company or its Affiliates (including in connection with transactions related to any of them). The Company and its Affiliates shall be entitled to transfer the Information among the Company or its Affiliates and to third parties for the purposes set forth above, which may include persons located abroad (including, any person administering the Plan or providing services in respect of the Plan or in order to comply with legal requirements, or the Trustee, their respective officers, directors, employees and representatives, and the respective successors and assigns of any of the foregoing),

and any person so receiving Information shall be entitled to transfer it for the purposes set forth above. The Company shall use commercially reasonable efforts to ensure that the transfer of such Information shall be limited to the reasonable and necessary scope. By receiving an Award hereunder, Grantee acknowledges and agrees that the Information is provided at Grantee's free will and that Grantee hereby consents to the storage and transfer of the Information as set forth above.

2. **Procedures for Issuance**.

2.1. Upon execution of this Agreement, the Company shall cause to be issued a certificate or certificates for the Restricted Stock as registered in the name of Grantee, except that in case of Restricted Stock designated as 102 Trustee Awards, the Restricted Stock shall be issued to and in the name of the Trustee for the benefit of the Grantee. The issuance shall be subject to the payment of any and all applicable taxes and compulsory payments by the Grantee. Subject to Section 19 of the Plan, the Grantee shall have no rights as a stockholder with respect to any Shares subject to the Award until the Grantee shall have paid the full Exercise Price therefor, if required, paid all applicable taxes and compulsory payments therefor and becomes the record holder of the subject Shares.

2.2. Without derogating from the provision of the Plan, in the event that the Company or, with respect to 102 Trustee Awards, the Trustee, determines that it is required to withhold any tax as a result of the issuance of Restricted Stock, the Grantee, as a condition to the issuance of Restricted Stock, shall make arrangements satisfactory to the Company and the Trustee, if applicable, to enable it to satisfy all withholding requirements. The Grantee shall also make arrangements satisfactory to the Company and the Trustee, if applicable, to enable it to satisfy any withholding requirements that may arise in connection with the vesting or disposition of Shares acquired pursuant to the grant or settlement of Restricted Stock under the Plan. Furthermore, the Grantee shall indemnify the Company and the Trustee, if applicable, and hold them harmless against and from any and all liability for any such tax or interest or penalty thereon, including without limitation, liabilities relating to withholding.

3. **Payment of Exercise Price**. The Exercise Price shall be paid in cash or in such other manner as determined in accordance with the Plan.

4. **Repurchase Right**. Grantee agrees that the Restricted Stock and Shares issued pursuant to the exercise thereof shall be subject to certain forfeiture and repurchase rights in favor of the Company or its assigns as provided in the Plan.

5. **Legend**. The Company may at any time place legends referencing any restriction imposed on the Restricted Stock and/or Shares (including, without limitation, any right of first refusal and right of repurchase) and any applicable federal, state or foreign securities law restrictions on all certificates representing Shares subject to the provisions of this Agreement. The Grantee shall, at the request of the Company, promptly present to the Company any and all certificates representing Shares acquired pursuant to Restricted Stock in the possession of the Grantee in order to carry out the provisions of this Section 5. Unless otherwise specified by the Company, legends placed on such certificates may include, but shall not be limited to, the following:

5.1. THE SHARES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO THE COMPANY'S CERTIFICATE OF INCORPORATION, THE COMPANY'S BYLAWS, THE COMPANY'S STOCK INCENTIVE PLAN AND THE RESTRICTED STOCK AGREEMENT WITH THE COMPANY, EACH AS AMENDED FROM TIME TO TIME, A COPY OF WHICH IS ON FILE AT THE PRINCIPAL OFFICE OF THIS COMPANY.

6. **Term and Expiration**. The Restricted Stock shall expire in accordance with the Plan, including in case the Grantee's employment or service terminates for any reason.

7. **Tax Matters and Consultation**.

7.1. THE GRANTEE IS ADVISED TO CONSULT WITH A TAX ADVISOR WITH RESPECT TO THE TAX CONSEQUENCES OF RECEIVING OR EXERCISING RESTRICTED STOCK HEREUNDER. THE COMPANY DOES NOT ASSUME ANY RESPONSIBILITY TO ADVISE THE GRANTEE ON SUCH MATTERS, WHICH SHALL REMAIN SOLELY THE RESPONSIBILITY OF THE GRANTEE. Without derogating from Section 18 of the Plan, and notwithstanding anything to the contrary, including the indication under "Intended Type of Award" above, the Company shall be under no duty to ensure, and no representation or commitment is made, that the Restricted Stock qualifies or will qualify under any particular tax treatment (such as Section 102 or any other treatment), nor shall the Company be required to

take any action for the qualification of any Restricted Stock under such tax treatment. If the Restricted Stock does not qualify under any particular tax treatment it could result in adverse tax consequences to the Grantee. By signing below, Grantee agrees that the Company and its Affiliates and their respective employees, directors, officers and stockholders shall not be liable for any tax, penalty, interest or cost incurred by Grantee as a result of such determination, nor will any of them have any liability of any kind or nature in the event that, for any reason whatsoever, a Restricted Stock does not qualify for any particular tax treatment.

8. **Section 102 Awards**.

8.1. Eligibility for Awards. Subject to Applicable Law, 102 Awards may only be granted to an "employee" within the meaning of Section 102(a) of the Ordinance (which as of the date hereof means (i) individuals employed by an Israeli company that is a Company's Affiliate, and (ii) individuals who are serving and are engaged personally (and not through an entity) as "office holders" by such an Israeli company), but may not be granted to a Controlling Stockholder ("Eligible 102 Grantees"). Eligible 102 Grantees may receive only 102 Awards, which may either be granted to a Trustee or granted under Section 102 of the Ordinance without a Trustee.

8.2. 102 Award Grant Date.

8.2.1. Each 102 Award will be deemed granted on the date determined by the Committee, subject to Section 9.2.2, provided that (i) the Grantee has signed all documents required by the Company or pursuant to Applicable Law, and (ii) with respect to 102 Trustee Awards, the Company has provided all applicable documents to the Trustee in accordance with the guidelines published by the ITA, and if this Agreement is not signed and delivered by the Grantee within 90 days from the date determined by the Committee (subject to Section 9.2.2), then such 102 Trustee Award shall be deemed granted on such later date as this Agreement is signed and delivered and on which the Company has provided all applicable documents to the Trustee in accordance with the guidelines published by the ITA. In the case of any contradiction, this provision and the date of grant determined pursuant hereto shall supersede and be deemed to amend any date of grant indicated in the Notice or in any corporate resolution or any agreement.

8.2.2. Unless otherwise permitted by the Ordinance, any grants of 102 Trustee Awards that are made on or after the date of the adoption of the Plan or an amendment to the Plan, as the case may be, that may become effective only at the expiration of thirty (30) days after the filing of the Plan or any amendment thereof (as the case may be) with the ITA in accordance with the Ordinance shall be conditional upon the expiration of such 30-day period, such condition shall be read and is incorporated by reference into any corporate resolutions approving such grants and into this Agreement and any agreement evidencing such grants (whether or not explicitly referring to such condition), and the date of grant shall be at the expiration of such 30-day period, whether or not the date of grant indicated therein corresponds with this Section 9.2. In the case of any contradiction, this provision and the date of grant determined pursuant hereto shall supersede and be deemed to amend any date of grant indicated in the Notice or in any corporate resolution or any agreement.

8.3. To the extent and with respect to 102 Trustee Awards, the Grantee acknowledges, undertakes and confirms that: (i) the Grantee fully understands that Section 102 of the Ordinance and the rules and regulations enacted thereunder apply to the Restricted Stock and the Shares issued upon exercise thereof, and (ii) the Grantee understands the provisions of Section 102 of the Ordinance, the tax track chosen thereunder and the implications thereof. If applicable, the terms of such Restricted Stock and the Shares issued upon exercise thereof shall also be subject to the terms of the Trust Agreement made between the Company and the Trustee for the benefit of the Grantee (as amended, the "Trust Agreement"), and the Grantee shall sign all documents requested by the Company or the Trustee, in accordance with and under the Trust Agreement. ***A copy of the Trust Agreement is available for the Grantee's review, during normal working hours, at the Company's offices***.

8.4. Grantee Undertaking. Without derogating from the generality of the foregoing, to the extent and with respect to any Restricted Stock that is a 102 Capital Gain Track Award, and as required by Section 102 of the Ordinance and the Rules, the Grantee acknowledges, undertakes and confirms in writing the following (which shall be apply and relate to all Awards granted to the Grantee, whether under the Plan or other plans maintained by the Company, and whether prior to or after the date hereof, if any):

8.4.1. The Grantee shall comply with all terms and conditions set forth in Section 102 of the Ordinance with regard to the "Capital Gain Track" and the applicable rules and regulations promulgated thereunder, as amended from time to time;

8.4.2. The Grantee is familiar with, and understands the provisions of, Section 102 of the Ordinance in general, and the tax arrangement under the "Capital Gain Track" in particular, and its tax consequences; the Grantee agrees that the Restricted Stock and Shares that may be issued upon settlement of the Restricted Stock (or otherwise in relation to the Restricted Stock), will be held by a trustee appointed pursuant to Section 102 of the Ordinance for at least the duration of the Holding Period, as defined in Section 102 under the "Capital Gain Track". The Grantee understands that any release of such Restricted Stock or Shares from trust, or any sale of the Restricted Stock or Shares prior to the termination of the Holding Period, will result in taxation at marginal tax rates, in addition to deductions of appropriate social security, health tax contributions or other compulsory payments; and

8.4.3. The Grantee agrees to the trust agreement signed between the Company, his/her employing company, and the trustee appointed pursuant to Section 102 of the Ordinance and shall sign all documents requested by the Company or the Trustee, in accordance with and under the trust agreement.

9. **Plan Termination or Amendment.** The Board may terminate or amend the Plan or the Restricted Stock at any time, subject to the Plan and any such amendment shall apply to the Grantee and this Restricted Stock Agreement (including the Restricted Stock and Shares issuable or issued pursuant thereto), without any required consent of the Grantee. Except as set forth above, this Agreement shall not be amended without the consent of the parties hereto.

10. **Miscellaneous**.

10.1. Further Assurances. The Grantee shall perform such further acts and execute such further documents as may reasonably be necessary by the Company to carry out and give full effect to the provisions of this Agreement and the Plan.

10.2. Fractional Shares. No fractional Share shall be issuable upon settlement or vesting of any Restricted Stock and the number of Shares to be issued shall be rounded down to the nearest whole Share, with any Share remaining at the last vesting date due to such rounding to be issued upon (and subject to) an settlement at such last vesting date.

10.3. Entire Agreement. This Agreement (together with the Notice and all Exhibits) and the Plan constitutes the full and entire understanding and agreement between the parties with regard to the subject matters hereof and thereof, and supersede all prior agreements and understandings, both written and oral (with no concession being made as to the existence of any such agreements and understandings).

10.4. Governing Law; Jurisdiction. This Agreement shall be governed by and construed according to the laws of Delaware, without regard to any applicable conflict of law principles which may result in the application of the law of any other jurisdiction, except with respect to matters that are subject to tax laws, regulations and rules of any specific jurisdiction, which shall be governed by the respective laws, regulations and rules of such jurisdiction. Certain definitions, which refer to laws other than the laws of such jurisdiction, shall be construed in accordance with such other laws. By signing this Agreement the Grantee hereby irrevocably submits to the exclusive jurisdiction of the Delaware Court of Chancery (and if jurisdiction in the Delaware Court of Chancery shall be unavailable, the Federal courts of the United States of America sitting in the State of Delaware), and any appellate court from any of the foregoing.

10.5. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original and enforceable against the parties, and all of which together shall be considered one and the same agreement, it being understood that all parties need not sign the same counterpart. The exchange of an executed Agreement (in counterparts or otherwise) by facsimile transmission, electronic transmission or electronic signature shall be sufficient to bind the parties to the terms and conditions of this Agreement, as an original.

- Signature Pages Following -

IN WITNESS WHEREOF, the parties have duly executed and delivered this **RESTRICTED STOCK AGREEMENT** as of the date last written below.

Grantee:	Ayala Pharmaceuticals, Inc.
«Grantee»	By: Name: Title:

[Signature Page to Restricted Stock Agreement/ «Date»]

EXHIBIT A – THE PLAN

as of the date hereof, subject to further amendments

AYALA PHARMACEUTICALS, INC.

NON-EMPLOYEE DIRECTOR COMPENSATION PROGRAM

Non-employee members of the board of directors (the "***Board***") of Ayala Pharmaceuticals, Inc. (the "***Company***") shall receive cash and equity compensation as set forth in this Non-Employee Director Compensation Program (this "***Program***"). The cash and equity compensation described in this Program shall be paid or be made, as applicable, automatically and without further action of the Board, to each member of the Board who is not an employee of the Company or any parent or subsidiary of the Company (each, a "***Non-Employee Director***") who is entitled to receive such cash or equity compensation, unless such Non-Employee Director declines the receipt of such cash or equity compensation by written notice to the Company. This Program shall remain in effect until it is revised or rescinded by further action of the Board. This Program may be amended, modified or terminated by the Board at any time in its sole discretion. The terms and conditions of this Program shall supersede any prior cash and/or equity compensation arrangements for service as a member of the Board between the Company and any of its Non-Employee Directors, except for equity compensation previously granted to a Non-Employee Director. This Program shall become effective on the date of the effectiveness of the Company's Registration Statement on Form S-1 relating to the initial public offering of common stock (the "***Effective Date***").

CASH COMPENSATION

The schedule of annual retainers (the "***Annual Retainers***") for the Non-Employee Directors is as follows:

Position	Amount
Base Board Fee	$25,000
Chair of the Board	$20,000
Chair of Audit Committee	$10,000
Chair of Compensation Committee	$10,000
Chair of Nominating and Corporate Governance Committee	$10,000
Member of Audit Committee (non-Chair)	$ 5,000
Member of Compensation Committee (non-Chair)	$ 5,000
Member of Nominating and Corporate Governance Committee (non-Chair)	$ 5,000

For the avoidance of doubt, the Annual Retainers in the table above are additive and a Non-Employee Director shall be eligible to earn an Annual Retainer for each position in which he or she serves. The Annual Retainers shall be earned on a quarterly basis based on a calendar quarter and shall be paid in cash by the Company in arrears not later than the fifteenth day following the end of each calendar quarter. In the event a Non-Employee Director does not serve as a Non-Employee Director, or in the applicable position, for an entire calendar quarter, the Annual Retainer paid to such Non-Employee Director shall be prorated for the portion of such calendar quarter actually served as a Non-Employee Director, or in such position, as applicable. In addition, the Annual Retainers will be prorated for the first calendar quarter in which the Effective Date occurs, which proration will be based on the number of days of the calendar quarter remaining in such quarter after the Effective Date.

EQUITY COMPENSATION

Each Non-Employee Director shall be granted options to purchase shares of the Company's common stock (each, an "***Option***") as set forth in the following table. Each Option shall be granted under and subject to the terms and provisions of the Company's 2017 Stock Incentive Plan or any other applicable Company equity incentive plan then-maintained by the Company (the "***Equity Plan***") and shall be subject to an award agreement, including any attached exhibits, in substantially the form previously approved by the Board.

Option	Number of Shares
Initial Option (for each Non-Employee Director other than Chair of the Board)	8,750
Initial Option (for the Chair of the Board)	17,500
Subsequent Option (for each Non-Employee Director other than Chair of the Board)	6,250
Subsequent Option (for the Chair of the Board)	12,500

A. Initial Options. Each Non-Employee Director who is initially elected or appointed to the Board after the Effective Date shall receive the Initial Option on the date of such initial election or appointment. No Non-Employee Director shall be granted more than one Initial Option.

B. Subsequent Options. A Non-Employee Director who (i) served as a Non-Employee Director on the Effective Date or has been serving as a Non-Employee Director on the Board for at least six months as of the date of any annual meeting of the Company's stockholders after the Effective Date and (ii) will continue to serve as a Non-Employee Director immediately following such meeting, shall be automatically granted a Subsequent Option on the date of such

annual meeting. For the avoidance of doubt, a Non-Employee Director elected for the first time to the Board at an annual meeting of the Company's stockholders shall only receive the Initial Option in connection with such election, and shall not receive a Subsequent Option on the date of such meeting as well.

C. Termination of Employment of Employee Directors. Members of the Board who are employees of the Company or any parent or subsidiary of the Company who subsequently terminate their employment with the Company and any parent or subsidiary of the Company and remain on the Board will not receive an Initial Option, but to the extent that they are otherwise entitled, will receive, after termination of employment with the Company and any parent or subsidiary of the Company, a Subsequent Option.

D. Terms of Options Granted to Non-Employee Directors.

1. *Exercise Price*. The per-share exercise price of each Option granted to a Non-Employee Director shall equal the Fair Market Value (as defined in the Equity Plan) of a share of the Company's common stock on the date the Option is granted.

2. *Vesting*.

a. Initial Options. Each Initial Option shall vest and become exercisable in thirty-six (36) substantially equal monthly installments following the date of grant, such that the Initial Option shall be fully vested on the third anniversary of the date of grant, subject to the Non-Employee Director continuing in service as a Non-Employee Director through each such vesting date.

b. *Subsequent Options*. Each Subsequent Option shall vest and become exercisable on the earlier of the first anniversary of the date of grant or the day immediately prior to the date of the next annual meeting of the Company's stockholders occurring after the date of grant, in either case, subject to the Non-Employee Director continuing in service as a Non-Employee Director through such vesting date.

c. *Forfeiture of Options*. Unless the Board otherwise determines, any portion of an Initial Option or Subsequent Option which is unvested or unexercisable at the time of a Non-Employee Director's termination of service on the Board as a Non-Employee Director shall be immediately forfeited upon such termination of service and shall not thereafter become vested and exercisable. All of a Non-Employee Director's Initial Options and Subsequent Options shall vest in full immediately prior to the occurrence of a Merger/Sale (as defined in the Equity Plan), to the extent outstanding at such time.

3. *Term*. The maximum term of each Option granted to a Non-Employee Director hereunder shall be ten (10) years from the date the Option is granted.

* * * * *

Exhibit 10.3

AYALA PHARMACEUTICALS, INC.

INDEMNIFICATION AGREEMENT

THIS INDEMNIFICATION AGREEMENT (the "***Agreement***") is made and entered into as of _____, 20[20] between Ayala Pharmaceuticals, Inc., a Delaware corporation (the "***Company***"), and [Name] ("***Indemnitee***").

WITNESSETH THAT:

WHEREAS, highly competent persons have become more reluctant to serve corporations as directors, officers or in other capacities unless they are provided with adequate protection through insurance or adequate indemnification against inordinate risks of claims and actions against them arising out of their service to and activities on behalf of the corporation;

WHEREAS, the Board of Directors of the Company (the "***Board***") has determined that, in order to attract and retain qualified individuals, the Company will attempt to maintain on an ongoing basis, at its sole expense, liability insurance to protect persons serving the Company and its subsidiaries from certain liabilities. Although the furnishing of such insurance has been a customary and widespread practice among United States-based corporations and other business enterprises, the Company believes that, given current market conditions and trends, such insurance may be available to it in the future only at higher premiums and with more exclusions. At the same time, directors, officers, and other persons in service to corporations or business enterprises are being increasingly subjected to expensive and time-consuming litigation relating to, among other things, matters that traditionally would have been brought only against the Company or business enterprise itself. The Bylaws of the Company require indemnification of the officers and directors of the Company. Indemnitee may also be entitled to indemnification pursuant to the General Corporation Law of the State of Delaware ("***DGCL***"). The Bylaws and the DGCL expressly provide that the indemnification provisions set forth therein are not exclusive, and thereby contemplate that contracts may be entered into between the Company and members of the Board, officers and other persons with respect to indemnification;

WHEREAS, the uncertainties relating to such insurance and to indemnification have increased the difficulty of attracting and retaining such persons;

WHEREAS, the Board has determined that the increased difficulty in attracting and retaining such persons is detrimental to the best interests of the Company's stockholders and that the Company should act to assure such persons that there will be increased certainty of such protection in the future;

WHEREAS, it is reasonable, prudent and necessary for the Company contractually to obligate itself to indemnify, and to advance expenses on behalf of, such persons to the fullest extent permitted by applicable law so that they will serve or continue to serve the Company free from undue concern that they will not be so indemnified;

WHEREAS, this Agreement is a supplement to and in furtherance of the Bylaws of the Company and any resolutions adopted pursuant thereto, and shall not be deemed a substitute therefor, nor to diminish or abrogate any rights of Indemnitee thereunder; [and]

WHEREAS, Indemnitee does not regard the protection available under the Company's Bylaws and insurance as adequate in the present circumstances, and may not be willing to serve as an officer or director without adequate protection, and the Company desires Indemnitee to serve in such capacity. Indemnitee is willing to serve, continue to serve and to take on additional service for or on behalf of the Company on the condition that he be so indemnified; [and]

[WHEREAS, Indemnitee has certain rights to indemnification and/or insurance provided by [NAME] which Indemnitee and [NAME] intend to be secondary to the primary obligation of the Company to indemnify Indemnitee as provided herein, with the Company's acknowledgement and agreement to the foregoing being a material condition to Indemnitee's willingness to serve on the Board;]

NOW, THEREFORE, in consideration of Indemnitee's agreement to serve as an officer or director from and after the date hereof, the parties hereto agree as follows:

1. Indemnity of Indemnitee. The Company hereby agrees to hold harmless and indemnify Indemnitee to the fullest extent permitted by law, as such may be amended from time to time. In furtherance of the foregoing indemnification, and without limiting the generality thereof:

(a) Proceedings Other Than Proceedings by or in the Right of the Company. Indemnitee shall be entitled to the rights of indemnification provided in this Section l(a) if, by reason of his Corporate Status (as hereinafter defined), the Indemnitee is, or is threatened to be made, a party to or participant in any Proceeding (as hereinafter defined) other than a Proceeding by or in the right of the Company. Pursuant to this Section 1(a), Indemnitee shall be indemnified against all Expenses (as hereinafter defined), judgments, penalties, fines and amounts paid in settlement actually and reasonably incurred by him, or on his behalf, in connection with such Proceeding or any claim, issue or matter therein, if the Indemnitee acted in good faith and in a manner the Indemnitee reasonably believed to be in or not opposed to the best interests of the Company, and with respect to any criminal Proceeding, had no reasonable cause to believe the Indemnitee's conduct was unlawful.

(b) Proceedings by or in the Right of the Company. Indemnitee shall be entitled to the rights of indemnification provided in this Section 1(b) if, by reason of his Corporate Status, the Indemnitee is, or is threatened to be made, a party to or participant in any Proceeding brought by or in the right of the Company. Pursuant to this Section 1(b), Indemnitee shall be indemnified against all Expenses actually and reasonably incurred by the Indemnitee, or on the Indemnitee's behalf, in connection with such Proceeding if the Indemnitee acted in good faith and in a manner the Indemnitee reasonably believed to be in or not opposed to the best interests of the Company; provided, however, if applicable law so provides, no indemnification against such Expenses shall be made in respect of any claim, issue or matter in such Proceeding as to which Indemnitee shall have been adjudged to be liable to the Company unless and to the extent that the Court of Chancery of the State of Delaware shall determine that such indemnification may be made.

(c) Indemnification for Expenses of a Party Who is Wholly or Partly Successful. Notwithstanding any other provision of this Agreement, to the extent that Indemnitee is, by reason of his Corporate Status, a party to and is successful, on the merits or otherwise, in any Proceeding, he shall be indemnified to the maximum extent permitted by law,

as such may be amended from time to time, against all Expenses actually and reasonably incurred by him or on his behalf in connection therewith. If Indemnitee is not wholly successful in such Proceeding but is successful, on the merits or otherwise, as to one or more but less than all claims, issues or matters in such Proceeding, the Company shall indemnify Indemnitee against all Expenses actually and reasonably incurred by him or on his behalf in connection with each successfully resolved claim, issue or matter. For purposes of this Section and without limitation, the termination of any claim, issue or matter in such a Proceeding by dismissal, with or without prejudice, shall be deemed to be a successful result as to such claim, issue or matter.

(d) Indemnification of Appointing Stockholder. If (i) Indemnitee is or was affiliated with one or more venture capital funds that has invested in the Company (an "***Appointing Stockholder***"), and (ii) the Appointing Stockholder is, or is threatened to be made, a party to or a participant in any Proceeding relating to or arising by reason of Appointing Stockholder's position as a stockholder of, or lender to, the Company, or Appointing Stockholder's appointment of or affiliation with Indemnitee or any other director, including without limitation any alleged misappropriation of a Company asset or corporate opportunity, any claim of misappropriation or infringement of intellectual property relating to the Company, any alleged false or misleading statement or omission made by the Company (or on its behalf) or its employees or agents, or any allegation of inappropriate control or influence over the Company or its Board members, officers, equity holders or debt holders, then the Appointing Stockholder will be entitled to indemnification hereunder for Expenses to the same extent as Indemnitee, and the terms of this Agreement as they relate to procedures for indemnification of Indemnitee and advancement of Expenses shall apply to any such indemnification of Appointing Stockholder.

(e) The rights provided to the Appointing Stockholder under this Section 1(d) shall (i) be suspended during any period during which the Appointing Stockholder does not have a representative on the Company's Board and (ii) terminate on an initial public offering of the Company's Common Stock; provided, however, that in the event of any such suspension or termination, the Appointing Stockholder's rights to indemnification will not be suspended or terminated with respect to any Proceeding based in whole or in part on facts and circumstances occurring at any time prior to such suspension or termination regardless of whether the Proceeding arises before or after such suspension or termination. The Company and Indemnitee agree that the Appointing Stockholder is an express third party beneficiary of the terms of this Section 1(d).

2. Additional Indemnity. In addition to, and without regard to any limitations on, the indemnification provided for in Section 1 of this Agreement, the Company shall and hereby does indemnify and hold harmless Indemnitee against all Expenses, judgments, penalties, fines and amounts paid in settlement actually and reasonably incurred by him or on his behalf if, by reason of his Corporate Status, he is, or is threatened to be made, a party to or participant in any Proceeding (including a Proceeding by or in the right of the Company), including, without limitation, all liability arising out of the negligence or active or passive wrongdoing of Indemnitee. The only limitation that shall exist upon the Company's obligations pursuant to this Agreement shall be that the Company shall not be obligated to make any payment to Indemnitee that is finally determined (under the procedures, and subject to the presumptions, set forth in Sections 6 and 7 hereof) to be unlawful.

3. Contribution.

(a) Whether or not the indemnification provided in Sections 1 and 2 hereof is available, in respect of any threatened, pending or completed action, suit or proceeding in which the Company is jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), the Company shall pay, in the first instance, the entire amount of any judgment or settlement of such action, suit or proceeding without requiring Indemnitee to contribute to such payment and the Company hereby waives and relinquishes any right of contribution it may have against Indemnitee. The Company shall not enter into any settlement of any action, suit or proceeding in which the Company is jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding) unless such settlement provides for a full and final release of all claims asserted against Indemnitee.

(b) Without diminishing or impairing the obligations of the Company set forth in the preceding subparagraph, if, for any reason, Indemnitee shall elect or be required to pay all or any portion of any judgment or settlement in any threatened, pending or completed action, suit or proceeding in which the Company is jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), the Company shall contribute to the amount of Expenses, judgments, fines and amounts paid in settlement actually and reasonably incurred and paid or payable by Indemnitee in proportion to the relative benefits received by the Company and all officers, directors or employees of the Company, other than Indemnitee, who are jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), on the one hand, and Indemnitee, on the other hand, from the transaction or events from which such action, suit or proceeding arose; provided, however, that the proportion determined on the basis of relative benefit may, to the extent necessary to conform to law, be further adjusted by reference to the relative fault of the Company and all officers, directors or employees of the Company other than Indemnitee who are jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), on the one hand, and Indemnitee, on the other hand, in connection with the transaction or events that resulted in such expenses, judgments, fines or settlement amounts, as well as any other equitable considerations which applicable law may require to be considered. The relative fault of the Company and all officers, directors or employees of the Company, other than Indemnitee, who are jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), on the one hand, and Indemnitee, on the other hand, shall be determined by reference to, among other things, the degree to which their actions were motivated by intent to gain personal profit or advantage, the degree to which their liability is primary or secondary and the degree to which their conduct is active or passive.

(c) The Company hereby agrees to fully indemnify and hold Indemnitee harmless from any claims of contribution which may be brought by officers, directors or employees of the Company, other than Indemnitee, who may be jointly liable with Indemnitee.

(d) To the fullest extent permissible under applicable law, if the indemnification provided for in this Agreement is unavailable to Indemnitee for any reason whatsoever, the Company, in lieu of indemnifying Indemnitee, shall contribute to the amount incurred by Indemnitee, whether for judgments, fines, penalties, excise taxes, amounts paid or to be paid in settlement and/or for Expenses, in connection with any claim relating to an indemnifiable event under this Agreement, in such proportion as is deemed fair and reasonable in light of all of the circumstances of such Proceeding in order to reflect (i) the relative benefits received by the Company and Indemnitee as a result of the event(s) and/or transaction(s) giving cause to such Proceeding and/or (ii) the relative fault of the Company (and its directors, officers, employees and agents) and Indemnitee in connection with such event(s) and/or transaction(s).

4. Indemnification for Expenses of a Witness. Notwithstanding any other provision of this Agreement, to the extent that Indemnitee is, by reason of his Corporate Status, a witness, or is made (or asked) to respond to discovery requests, in any Proceeding to which Indemnitee is not a party, he shall be indemnified against all Expenses actually and reasonably incurred by him or on his behalf in connection therewith.

5. Advancement of Expenses. Notwithstanding any other provision of this Agreement, the Company shall advance all Expenses incurred by or on behalf of Indemnitee in connection with any Proceeding by reason of Indemnitee's Corporate Status within thirty (30) days after the receipt by the Company of a statement or statements from Indemnitee requesting such advance or advances from time to time, whether prior to or after final disposition of such Proceeding. Such statement or statements shall reasonably evidence the Expenses incurred by Indemnitee. The Indemnitee shall qualify for advances upon the execution and delivery to the Company of this Agreement, which shall constitute an undertaking by Indemnitee to repay any Expenses advanced if it shall ultimately be determined that Indemnitee is not entitled to be indemnified against such Expenses. Any advances and undertakings to repay pursuant to this Section 5 shall be unsecured and interest free.

6. Procedures and Presumptions for Determination of Entitlement to Indemnification. It is the intent of this Agreement to secure for Indemnitee rights of indemnity that are as favorable as may be permitted under the DGCL and public policy of the State of Delaware. Accordingly, the parties agree that the following procedures and presumptions shall apply in the event of any question as to whether Indemnitee is entitled to indemnification under this Agreement:

(a) To obtain indemnification under this Agreement, Indemnitee shall submit to the Company a written request, including therein or therewith such documentation and information as is reasonably available to Indemnitee and is reasonably necessary to determine whether and to what extent Indemnitee is entitled to indemnification. The Secretary of the Company shall, promptly upon receipt of such a request for indemnification, advise the Board in writing that Indemnitee has requested indemnification. Notwithstanding the foregoing, any failure of Indemnitee to provide such a request to the Company, or to provide such a request in a timely fashion, shall not relieve the Company of any liability that it may have to Indemnitee unless, and to the extent that, such failure actually and materially prejudices the interests of the Company.

(b) Upon written request by Indemnitee for indemnification pursuant to the first sentence of Section 6(a) hereof, a determination with respect to Indemnitee's entitlement thereto shall be made in the specific case by one of the following four methods, which shall be at the election of the Board: (1) by a majority vote of the disinterested directors, even though less than a quorum, (2) by a committee of disinterested directors designated by a majority vote of the disinterested directors, even though less than a quorum, (3) if there are no disinterested directors or if the disinterested directors so direct, by independent legal counsel in a written opinion to the Board, a copy of which shall be delivered to the Indemnitee, or (4) if so directed by the Board, by the stockholders of the Company. For purposes hereof, disinterested directors are those members of the Board who are not parties to the action, suit or proceeding in respect of which indemnification is sought by Indemnitee.

(c) If the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 6(b) hereof, the Independent Counsel shall be selected as provided in this Section 6(c). The Independent Counsel shall be selected by the Board. Indemnitee may, within ten (10) days after such written notice of selection shall have been given, deliver to the Company a written objection to such selection; provided, however, that such objection may be asserted only on the ground that the Independent Counsel so selected does not meet the requirements of "Independent Counsel" as defined in Section 13 of this Agreement, and the objection shall set forth with particularity the factual basis of such assertion. Absent a proper and timely objection, the person so selected shall act as Independent Counsel. If a written objection is made and substantiated, the Independent Counsel selected may not serve as Independent Counsel unless and until such objection is withdrawn or a court has determined that such objection is without merit. If, within twenty (20) days after the conclusion of the Proceeding giving rise to the request for indemnification, no Independent Counsel shall have been selected and not objected to, either the Company or Indemnitee may petition the Court of Chancery of the State of Delaware for resolution of any objection which shall have been made by the Indemnitee to the Company's selection of Independent Counsel and/or for the appointment as Independent Counsel of a person selected by the court or by such other person as the court shall designate, and the person with respect to whom all objections are so resolved or the person so appointed shall act as Independent Counsel under Section 6(b) hereof. The Company shall pay any and all reasonable fees and expenses of Independent Counsel incurred by such Independent Counsel in connection with acting pursuant to Section 6(b) hereof, and the Company shall pay all reasonable fees and expenses incident to the procedures of this Section 6(c), regardless of the manner in which such Independent Counsel was selected or appointed.

(d) In making a determination with respect to entitlement to indemnification hereunder, the person or persons or entity making such determination shall presume that Indemnitee is entitled to indemnification under this Agreement. Anyone seeking to overcome this presumption shall have the burden of proof and the burden of persuasion by clear and convincing evidence. Neither the failure of the Company (including by its directors or independent legal counsel) to have made a determination prior to the commencement of any action pursuant to this Agreement that indemnification is proper in the circumstances because Indemnitee has met the applicable standard of conduct, nor an actual determination by the Company (including by its directors or independent legal counsel) that Indemnitee has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that Indemnitee has not met the applicable standard of conduct.

(e) Indemnitee shall be deemed to have acted in good faith if Indemnitee's action is based on the records or books of account of the Enterprise (as hereinafter defined), including financial statements, or on information supplied to Indemnitee by the officers of the Enterprise in the course of their duties, or on the advice of legal counsel for the Enterprise or on information or records given or reports made to the Enterprise by an independent certified public accountant or by an appraiser or other expert selected with reasonable care by the Enterprise. In addition, the knowledge and/or actions, or failure to act, of any director, officer, agent or employee of the Enterprise shall not be imputed to Indemnitee for purposes of determining the right to indemnification under this Agreement. Whether or not the foregoing provisions of this Section 6(e) are satisfied, it shall in any event be presumed that Indemnitee has

at all times acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the Company. Anyone seeking to overcome this presumption shall have the burden of proof and the burden of persuasion by clear and convincing evidence.

(f) If the person, persons or entity empowered or selected under Section 6 to determine whether Indemnitee is entitled to indemnification shall not have made a determination within sixty (60) days after the conclusion of the Proceeding giving rise to the request for indemnification, the requisite determination of entitlement to indemnification shall be deemed to have been made and Indemnitee shall be entitled to such indemnification absent (i) a misstatement by Indemnitee of a material fact, or an omission of a material fact necessary to make Indemnitee's statement not materially misleading, in connection with the request for indemnification, or (ii) a prohibition of such indemnification under applicable law; provided, however, that such sixty (60)-day period may be extended for a reasonable time, not to exceed an additional thirty (30) days, if the person, persons or entity making such determination with respect to entitlement to indemnification in good faith requires such additional time to obtain or evaluate documentation and/or information relating thereto; and provided, further, that the foregoing provisions of this Section 6(f) shall not apply if the determination of entitlement to indemnification is to be made by the stockholders pursuant to Section 6(b) of this Agreement and if (A) within fifteen (15) days after the conclusion of the Proceeding giving rise to the request for indemnification, the Board or the Disinterested Directors, if appropriate, resolve to submit such determination to the stockholders for their consideration at an annual meeting thereof to be held within seventy-five (75) days after such resolution and such determination is made thereat, or (B) a special meeting of stockholders is called within fifteen (15) days after such resolution and such meeting is held for such purpose within sixty (60) days after having been so called and such determination is made thereat.

(g) Indemnitee shall cooperate with the person, persons or entity making such determination with respect to Indemnitee's entitlement to indemnification, including providing to such person, persons or entity upon reasonable advance request any documentation or information which is not privileged or otherwise protected from disclosure and which is reasonably available to Indemnitee and reasonably necessary to such determination. Any Independent Counsel, member of the Board or stockholder of the Company shall act reasonably and in good faith in making a determination regarding the Indemnitee's entitlement to indemnification under this Agreement. Any costs or expenses (including attorneys' fees and disbursements) incurred by Indemnitee in so cooperating with the person, persons or entity making such determination shall be borne by the Company (irrespective of the determination as to Indemnitee's entitlement to indemnification) and the Company hereby indemnifies and agrees to hold Indemnitee harmless therefrom.

(h) The Company acknowledges that a settlement or other disposition short of final judgment may be successful if it permits a party to avoid expense, delay, distraction, disruption and uncertainty. In the event that any action, claim or proceeding to which Indemnitee is a party is resolved in any manner other than by adverse judgment against Indemnitee (including, without limitation, settlement of such action, claim or proceeding with or without payment of money or other consideration) it shall be presumed that Indemnitee has been successful on the merits or otherwise in such action, suit or proceeding. Anyone seeking to overcome this presumption shall have the burden of proof and the burden of persuasion by clear and convincing evidence.

(i) The termination of any Proceeding or of any claim, issue or matter therein, by judgment, order, settlement or conviction, or upon a plea of nolo contendere or its equivalent, shall not (except as otherwise expressly provided in this Agreement) of itself adversely affect the right of Indemnitee to indemnification or create a presumption that Indemnitee did not act in good faith and in a manner which he reasonably believed to be in or not opposed to the best interests of the Company or, with respect to any criminal Proceeding, that Indemnitee had reasonable cause to believe that his conduct was unlawful.

7. Remedies of Indemnitee.

(a) In the event that (i) a determination is made pursuant to Section 6 of this Agreement that Indemnitee is not entitled to indemnification under this Agreement, (ii) advancement of Expenses is not timely made pursuant to Section 5 of this Agreement, (iii) no determination of entitlement to indemnification is made pursuant to Section 6(b) of this Agreement within ninety (90) days after the conclusion of the Proceeding giving rise to the request for indemnification, (iv) payment of indemnification required by Section 4 is not made pursuant to this Agreement within thirty (30) days after receipt by the Company of a written request therefor or (v) payment of indemnification is not made within ten (10) days after a determination has been made that Indemnitee is entitled to indemnification or such determination is deemed to have been made pursuant to Section 6 of this Agreement, Indemnitee shall be entitled to an adjudication in Court of Chancery of the State of Delaware of Indemnitee's entitlement to such indemnification. Indemnitee shall commence such proceeding seeking an adjudication within one hundred eighty (180) days following the date on which Indemnitee first has the right to commence such proceeding pursuant to this Section 7(a). The Company shall not oppose Indemnitee's right to seek any such adjudication.

(b) In the event that a determination shall have been made pursuant to Section 6(b) of this Agreement that Indemnitee is not entitled to indemnification, any judicial proceeding commenced pursuant to this Section 7 shall be conducted in all respects as a de novo trial on the merits, and Indemnitee shall not be prejudiced by reason of the adverse determination under Section 6(b).

(c) If a determination shall have been made pursuant to Section 6(b) of this Agreement that Indemnitee is entitled to indemnification, the Company shall be bound by such determination in any judicial proceeding commenced pursuant to this Section 7, absent (i) a misstatement by Indemnitee of a material fact, or an omission of a material fact necessary to make Indemnitee's misstatement not materially misleading in connection with the application for indemnification, or (ii) a prohibition of such indemnification under applicable law.

(d) In the event that Indemnitee, pursuant to this Section 7, seeks a judicial adjudication of his rights under, or to recover damages for breach of, this Agreement, or to recover under any directors' and officers' liability insurance policies maintained by the Company, the Company shall pay on his behalf, in advance, any and all expenses (of the types described in the definition of Expenses in Section 13 of this Agreement) actually and reasonably incurred by him in such judicial adjudication, regardless of whether Indemnitee ultimately is determined to be entitled to such indemnification, advancement of expenses or insurance recovery.

(e) The Company shall be precluded from asserting in any judicial proceeding commenced pursuant to this Section 7 that the procedures and presumptions of this Agreement are not valid, binding and enforceable and shall stipulate in any such court that the Company is bound by all the provisions of this Agreement. The Company shall indemnify Indemnitee against any and all Expenses and, if requested by Indemnitee, shall (within ten (10) days after receipt by the Company of a written request therefore) advance, to the extent not prohibited by law, such expenses to Indemnitee, which are incurred by Indemnitee in connection with any action brought by Indemnitee for indemnification or advance of Expenses from the Company under this Agreement or under any directors' and officers' liability insurance policies maintained by the Company, regardless of whether Indemnitee ultimately is determined to be entitled to such indemnification, advancement of Expenses or insurance recovery, as the case may be.

(f) Notwithstanding anything in this Agreement to the contrary, no determination as to entitlement to indemnification under this Agreement shall be required to be made prior to the final disposition of the Proceeding.

8. Non-Exclusivity; Survival of Rights; Insurance; Primacy of Indemnification; Subrogation.

(a) The rights of indemnification as provided by this Agreement shall not be deemed exclusive of any other rights to which Indemnitee may at any time be entitled under applicable law, the Certificate of Incorporation, the Bylaws, any agreement, a vote of stockholders, a resolution of directors of the Company, or otherwise. No amendment, alteration or repeal of this Agreement or of any provision hereof shall limit or restrict any right of Indemnitee under this Agreement in respect of any action taken or omitted by such Indemnitee in his Corporate Status prior to such amendment, alteration or repeal. To the extent that a change in the DGCL, whether by statute or judicial decision, permits greater indemnification than would be afforded currently under the Certificate of Incorporation, Bylaws and this Agreement, it is the intent of the parties hereto that Indemnitee shall enjoy by this Agreement the greater benefits so afforded by such change. No right or remedy herein conferred is intended to be exclusive of any other right or remedy, and every other right and remedy shall be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other right or remedy.

(b) To the extent that the Company maintains an insurance policy or policies providing liability insurance for directors, officers, employees, or agents or fiduciaries of the Company or of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise that such person serves at the request of the Company, Indemnitee shall be covered by such policy or policies in accordance with its or their terms to the maximum extent of the coverage available for any director, officer, employee, agent or fiduciary under such policy or policies. If, at the time of the receipt of a notice of a claim pursuant to the terms hereof, the Company has directors' and officers' liability insurance in effect, the Company shall give prompt notice of the commencement of such proceeding to the insurers in accordance with the procedures set forth in the respective policies. The Company shall thereafter take all necessary or desirable action to cause such insurers to pay, on behalf of the Indemnitee, all amounts payable as a result of such proceeding in accordance with the terms of such policies.

(c) [The Company hereby acknowledges that Indemnitee has certain rights to indemnification, advancement of expenses and/or insurance provided by [●] and certain of its affiliates (collectively, the "***Fund Indemnitors***"). The Company hereby agrees (i) that it is the indemnitor of first resort (i.e., its obligations to Indemnitee are primary and any obligation of the Fund Indemnitors to advance expenses or to provide indemnification for the same expenses or liabilities incurred by Indemnitee are secondary), (ii) that it shall be required to advance the full amount of expenses incurred by Indemnitee and shall be liable for the full amount of all Expenses, judgments, penalties, fines and amounts paid in settlement to the extent legally permitted and as required by the terms of this Agreement and the or Bylaws of the Company (or any other agreement between the Company and Indemnitee), without regard to any rights Indemnitee may have against the Fund Indemnitors, and, (iii) that it irrevocably waives, relinquishes and releases the Fund Indemnitors from any and all claims against the Fund Indemnitors for contribution, subrogation or any other recovery of any kind in respect thereof. The Company further agrees that no advancement or payment by the Fund Indemnitors on behalf of Indemnitee with respect to any claim for which Indemnitee has sought indemnification from the Company shall affect the foregoing and the Fund Indemnitors shall have a right of contribution and/or be subrogated to the extent of such advancement or payment to all of the rights of recovery of Indemnitee against the Company. The Company and Indemnitee agree that the Fund Indemnitors are express third party beneficiaries of the terms of this Section 8(c).]

(d) [Except as provided in paragraph (c) above,] in the event of any payment under this Agreement, the Company shall be subrogated to the extent of such payment to all of the rights of recovery of Indemnitee (other than against the Fund Indemnitors), who shall execute all papers required and take all action necessary to secure such rights, including execution of such documents as are necessary to enable the Company to bring suit to enforce such rights.

(e) [Except as provided in paragraph (c) above,] the Company shall not be liable under this Agreement to make any payment of amounts otherwise indemnifiable hereunder if and to the extent that Indemnitee has otherwise actually received such payment under any insurance policy, contract, agreement or otherwise.

(f) [Except as provided in paragraph (c) above,] the Company's obligation to indemnify or advance Expenses hereunder to Indemnitee who is or was serving at the request of the Company as a director, officer, employee or agent of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise shall be reduced by any amount Indemnitee has actually received as indemnification or advancement of expenses from such other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise.

9. Exception to Right of Indemnification. Notwithstanding any provision in this Agreement, the Company shall not be obligated under this Agreement to make any indemnity in connection with any claim made against Indemnitee:

(a) for which payment has actually been made to or on behalf of Indemnitee under any insurance policy or other indemnity provision, except with respect to any excess beyond the amount paid under any insurance policy or other indemnity provision[, provided, that the foregoing shall not affect the rights of Indemnitee or the Fund Indemnitors set forth in Section 8(c) above]; or

(b) for an accounting of profits made from the purchase and sale (or sale and purchase) by Indemnitee of securities of the Company within the meaning of Section 16(b) of the Securities Exchange Act of 1934, as amended, or similar provisions of state statutory law or common law; or

(c) in connection with any Proceeding (or any part of any Proceeding) initiated by Indemnitee, including any Proceeding (or any part of any Proceeding) initiated by Indemnitee against the Company or its directors, officers, employees or other indemnitees, unless (i) the Board authorized the Proceeding (or any part of any Proceeding) prior to its initiation or (ii) the Company provides the indemnification, in its sole discretion, pursuant to the powers vested in the Company under applicable law.

10. Duration of Agreement. All agreements and obligations of the Company contained herein shall continue during the period Indemnitee is an officer or director of the Company (or is or was serving at the request of the Company as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise) and shall continue thereafter so long as Indemnitee shall be subject to any Proceeding (or any proceeding commenced under Section 7 hereof) by reason of his Corporate Status, whether or not he is acting or serving in any such capacity at the time any liability or expense is incurred for which indemnification can be provided under this Agreement. This Agreement shall be binding upon and inure to the benefit of and be enforceable by the parties hereto and their respective successors (including any direct or indirect successor by purchase, merger, consolidation or otherwise to all or substantially all of the business or assets of the Company), assigns, spouses, heirs, executors and personal and legal representatives.

11. Security. To the extent requested by Indemnitee and approved by the Board, the Company may at any time and from time to time provide security to Indemnitee for the Company's obligations hereunder through an irrevocable bank line of credit, funded trust or other collateral. Any such security, once provided to Indemnitee, may not be revoked or released without the prior written consent of the Indemnitee.

12. Enforcement.

(a) The Company expressly confirms and agrees that it has entered into this Agreement and assumes the obligations imposed on it hereby in order to induce Indemnitee to serve as an officer or director of the Company, and the Company acknowledges that Indemnitee is relying upon this Agreement in serving as an officer or director of the Company.

(b) This Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof and supersedes all prior agreements and understandings, oral, written and implied, between the parties hereto with respect to the subject matter hereof.

(c) The Company shall not seek from a court, or agree to, a "bar order" which would have the effect of prohibiting or limiting the Indemnitee's rights to receive advancement of expenses under this Agreement.

13. Definitions. For purposes of this Agreement:

(a) "***Corporate Status***" describes the status of a person who is or was a director, officer, employee, agent or fiduciary of the Company or of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise that such person is or was serving at the express written request of the Company.

(b) "***Disinterested Director***" means a director of the Company who is not and was not a party to the Proceeding in respect of which indemnification is sought by Indemnitee.

(c) "***Enterprise***" shall mean the Company and any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise that Indemnitee is or was serving at the express written request of the Company as a director, officer, employee, agent or fiduciary.

(d) "***Expenses***" shall include all reasonable attorneys' fees, retainers, court costs, transcript costs, fees of experts, witness fees, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees and all other disbursements or expenses of the types customarily incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, participating, or being or preparing to be a witness in a Proceeding, or responding to, or objecting to, a request to provide discovery in any Proceeding. Expenses also shall include Expenses incurred in connection with any appeal resulting from any Proceeding and any federal, state, local or foreign taxes imposed on the Indemnitee as a result of the actual or deemed receipt of any payments under this Agreement, including without limitation the premium, security for, and other costs relating to any cost bond, supersede as bond, or other appeal bond or its equivalent. Expenses, however, shall not include amounts paid in settlement by Indemnitee or the amount of judgments or fines against Indemnitee.

(e) "***Independent Counsel***" means a law firm, or a member of a law firm, that is experienced in matters of corporation law and neither presently is, nor in the past five years has been, retained to represent: (i) the Company or Indemnitee in any matter material to either such party (other than with respect to matters concerning Indemnitee under this Agreement, or of other indemnitees under similar indemnification agreements), or (ii) any other party to the Proceeding giving rise to a claim for indemnification hereunder. Notwithstanding the foregoing, the term "Independent Counsel" shall not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Company or Indemnitee in an action to determine Indemnitee's rights under this Agreement. The Company agrees to pay the reasonable fees of the Independent Counsel referred to above and to fully indemnify such counsel against any and all Expenses, claims, liabilities and damages arising out of or relating to this Agreement or its engagement pursuant hereto.

(f) "***Proceeding***" includes any threatened, pending or completed action, suit, arbitration, alternate dispute resolution mechanism, investigation, inquiry, administrative hearing or any other actual, threatened or completed proceeding, whether brought by or in the right of the Company or otherwise and whether civil, criminal, administrative or investigative, in which Indemnitee was, is or will be involved as a party or otherwise, by reason of his or her Corporate Status, by reason of any action taken by him or of any inaction on his part while acting in his or her Corporate Status; in each case whether or not he is acting or serving in

any such capacity at the time any liability or expense is incurred for which indemnification can be provided under this Agreement; including one pending on or before the date of this Agreement, but excluding one initiated by an Indemnitee pursuant to Section 7 of this Agreement to enforce his rights under this Agreement.

14. Severability. The invalidity or unenforceability of any provision hereof shall in no way affect the validity or enforceability of any other provision. Further, the invalidity or unenforceability of any provision hereof as to either Indemnitee or Appointing Stockholder shall in no way affect the validity or enforceability of any provision hereof as to the other. Without limiting the generality of the foregoing, this Agreement is intended to confer upon Indemnitee and Appointing Stockholder indemnification rights to the fullest extent permitted by applicable laws. In the event any provision hereof conflicts with any applicable law, such provision shall be deemed modified, consistent with the aforementioned intent, to the extent necessary to resolve such conflict.

15. Modification and Waiver. No supplement, modification, termination or amendment of this Agreement shall be binding unless executed in writing by both of the parties hereto. No waiver of any of the provisions of this Agreement shall be deemed or shall constitute a waiver of any other provisions hereof (whether or not similar) nor shall such waiver constitute a continuing waiver.

16. Notice By Indemnitee. Indemnitee agrees promptly to notify the Company in writing upon being served with or otherwise receiving any summons, citation, subpoena, complaint, indictment, information or other document relating to any Proceeding or matter which may be subject to indemnification covered hereunder. The failure to so notify the Company shall not relieve the Company of any obligation which it may have to Indemnitee under this Agreement or otherwise unless and only to the extent that such failure or delay materially prejudices the Company.

17. Notices. All notices and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by confirmed electronic mail or facsimile if sent during normal business hours of the recipient, and if not so confirmed, then on the next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. All communications shall be sent:

(a) To Indemnitee at the address set forth below Indemnitee signature hereto.

(b) To the Company at:

Ayala Pharmaceuticals, Inc.
Oppenheimer 4
Rehovot 7670104, Israel
Attention: Chief Executive Officer

or to such other address as may have been furnished to Indemnitee by the Company or to the Company by Indemnitee, as the case may be.

18. Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, *e.g.*, www.docusign.com) or any other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

19. Headings. The headings of the paragraphs of this Agreement are inserted for convenience only and shall not be deemed to constitute part of this Agreement or to affect the construction thereof.

20. Governing Law and Consent to Jurisdiction. This Agreement and the legal relations among the parties shall be governed by, and construed and enforced in accordance with, the laws of the State of Delaware, without regard to its conflict of laws rules. The Company and Indemnitee hereby irrevocably and unconditionally (i) agree that any action or proceeding arising out of or in connection with this Agreement shall be brought only in the Chancery Court of the State of Delaware (the "***Delaware Court***"), and not in any other state or federal court in the United States of America or any court in any other country, (ii) consent to submit to the exclusive jurisdiction of the Delaware Court for purposes of any action or proceeding arising out of or in connection with this Agreement, (iii) appoint, to the extent such party is not otherwise subject to service of process in the State of Delaware, irrevocably The Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801 as its agent in the State of Delaware as such party's agent for acceptance of legal process in connection with any such action or proceeding against such party with the same legal force and validity as if served upon such party personally within the State of Delaware, (iv) waive any objection to the laying of venue of any such action or proceeding in the Delaware Court, and (v) waive, and agree not to plead or to make, any claim that any such action or proceeding brought in the Delaware Court has been brought in an improper or inconvenient forum.

SIGNATURE PAGE TO FOLLOW

IN WITNESS WHEREOF, the parties hereto have executed this Indemnification Agreement on and as of the day and year first above written.

AYALA PHARMACEUTICALS, INC.

By: _____

Name: _____

Title: _____

INDEMNITEE

_____

Name: _____

Address:

_____

_____

_____

_____

Exhibit 10.7

EMPLOYMENT AGREEMENT

This EMPLOYMENT AGREEMENT (this "Agreement"), dated as of **July 24, 2019** (the "Effective Date") is by and between Ayala Pharmaceuticals, Inc. (the "Company"), and **Gary Gordon** (the "Employee") (individually, each a "Party" and collectively, the "Parties").

WHEREAS, in recognition of the Employee's experience and abilities, the Company desires to assure itself of the employment of the Employee in accordance with the terms and conditions provided herein; and

WHEREAS, the Employee seeks to be employed by the Company and to perform services for the Company and its affiliated entities in accordance with the terms and conditions provided herein.

NOW, THEREFORE, in consideration of the promises and the respective covenants and agreements of the Parties herein contained, and intending to be legally bound hereby, the Parties hereto agree as follows:

1. Employment. The Company hereby agrees to employ the Employee, and the Employee hereby agrees to be employed by the Company and to perform services for the Company, its subsidiaries and affiliates, on the terms and conditions set forth herein (the "Employment").

2. Term. Unless otherwise mutually agreed by the Parties in writing, the Employment shall commence on **August 1, 2019** (the "Start Date"), and shall continue until terminated by either the Employee or the Company, pursuant to Section 7 hereof (the period of Employment pursuant to this Agreement, the "Term").

3. Position. During the Term, the Employee shall serve as the Company's Chief Medical Officer (the "Position").

4. Duties and Reporting Relationship. During the Term, the Employee shall devote eighty percent (80%) of the Employee's regular business time and, on such a part-time basis, during not less than four (4) working days each week, use the Employee's skills and render services to the best of the Employee's abilities on behalf of the Company. The Employee shall report directly to the **Chief Executive Officer** of the Company (the "Supervisor"). The Employee agrees that to the best of the Employee's ability, the Employee will make all efforts to loyally and conscientiously perform the duties and obligations required of and from the Employee pursuant to the terms of this Agreement. The Employee shall be responsible for all duties reasonably associated with the Position as detailed in Schedule A attached hereto and as determined by the Supervisor, or by the Supervisor's designee, as may be updated from time to time. The Employee shall comply with all of the policies and procedures of the Company.

5. Place of Performance. The Parties agree that the Employee shall work from the Employee's home office in the Chicago area or at the Company's Chicago office upon the Company's establishment of such office, or at another location as mutually agreed upon by the Parties. The Employee acknowledges and agrees that, in connection with the Employment for the Company, the Employee will be required to regularly travel throughout North America as well as outside of the North America geographical area, including but not limited to the State of Israel.

6. Compensation and Related Matters.

(a) Annual Base Salary. During the Term, the Company shall pay to the Employee an annual base salary (the "Base Salary") at a rate of Three Hundred and Seventy-Five Thousand United States Dollars ($375,000), to be paid on a prorated basis in conformity with the Company's payroll policies relating to its employees, in each case less applicable withholdings and deductions, not less frequently than twice each month. The Position qualifies as exempt from overtime payments for hours worked in excess of forty (40) per week, and the Employee will therefore not be entitled to any such overtime compensation.

(b) Sign-On Bonus. The Employee shall be paid a sign-on bonus in the amount of Seventy Thousand United States Dollars ($70,000) (the "Sign-On Bonus"), which will be paid to the Employee (less applicable withholdings and deductions) in one (1) lump sum payment via the Employee's first payroll of the Term. It is understood that in the event that the Employment is terminated by the Company for Cause (as defined below) prior to the two (2)-year anniversary of the Start Date, or in the event that the Employee resigns not for Good Reason (as defined below) prior to the twelve (12)-month anniversary of the Start Date, the Employee shall be obligated to repay the full amount of such Sign-On Bonus to the Company by no later than thirty (30) days following the Date of Termination (as defined below). In the event that the Employee resigns not for Good Reason on or following the twelve (12)-month anniversary of the Start Date, but prior to the two (2)-year anniversary of the Start Date, the Employee shall be obligated to repay to the Company a proportional sum of the Sign-On Bonus, prorated in accordance with the period of time for which the Employee was employed with the Company, as a percentage of two (2) full years, and the Employee shall be required to repay such sum to the Company by no later than thirty (30) days following the Date of Termination.

(c) Annual Target Bonus. In addition to the compensation set forth above in Section 6(a), following each calendar year during the Term (including the year 2019), the Employee shall be eligible for an annual target bonus of up to forty percent (40%) of the Base Salary as in effect at the start of that calendar year, upon the attainment of goals and targets established in writing by the Company's Board of Directors (the "Board"), with such annual target bonus to be paid to the Employee less applicable withholdings and deductions. If Employee works less than a full calendar year, and unless the Employee resigns not for Good Reason or the Employment is terminated by the Company for Cause, then the Employee shall be eligible for the aforesaid annual target bonus (pro-rated for the portion of that year until his last day of employment) upon the attainment of goals and targets established in writing by the Board, with such pro-rated annual target bonus to be paid to the Employee less applicable withholdings and deductions.

(d) Benefits. During the Term hereof, the Employee shall be entitled to the following benefits:

(i) Health Insurance. The Company shall make available to the Employee health insurance coverage for the Employee, in accordance with the policies obtained by the Company on behalf of similarly situated employees.

(ii) 401(k). The Employee shall be eligible to participate in the Company's 401(k) Plan, in accordance with the terms of such Plan.

(iii) Paid Time Off.

(1) Vacation. The Employee shall be entitled to take twenty (20) work days of vacation per calendar year, with such days to be prorated for partial years of employment. It is agreed that the Employee shall coordinate the timing of taking such vacation days with the Supervisor. The Employee shall be entitled to carry over accrued but unused vacation days from one calendar year into the following calendar year, but at no time shall the Employee accrue more than twenty (20) work days of vacation.

(2) Holidays. In addition to vacation days, the Employee shall be entitled to take off the following paid holidays each calendar year: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Eve, Christmas Day and New Year's Eve, and two (2) floating holidays of the Employee's choice, as coordinated with the Supervisor. The Company does not pay out worked holidays, or carry over worked holidays from one year into the following year.

(3) Sick Time. The Employee will be eligible to take paid sick time off from work in accordance with applicable law, up to a maximum of forty (40) hours per calendar year. Accrued but unused sick time shall be carried over from one calendar year to the following calendar year, with a maximum of forty (40) hours to be used for purposes of sick time in any given calendar year.

(4) Separation from the Company. Upon the Employee's termination of employment by the Company or the Employee's resignation, the Employee will be entitled to the payout of any accrued but unused vacation days, but will not be eligible for payout on account of unused sick time or worked holidays.

(iv) Stock Options. The Company shall recommend to the Board that Employee be granted options to purchase 190,000 shares of Common Stock of the Company, par value US$0.01 each, pursuant to the terms of the Company's Stock Incentive Plan and applicable grant agreements, as approved and adopted by the Board. All matters related to such options, including but not limited to the grant itself, vesting schedule, exercise price per share, and the required governing agreement and other documentation, shall be subject to the sole discretion of the Board, if such grant is approved; however, nothing herein is intended to constitute a grant of, or right to, any share capital of the Company, and the grant of the aforesaid options and the terms thereof shall be subject to the sole discretion of the Board, and shall be further subject to any approvals required under applicable tax or other laws, and to an execution of governing agreements and other pertinent documentation as shall be prescribed by the Board. It is understood that the Employee shall be solely responsible for any tax liability incurred in connection with the options, including but not limited to with respect to the grant, exercise, and/or sale of the shares underlying such options.

(v) Company Property. The Company shall provide the Employee with Company property, including but not limited to a laptop, with all of such property to remain at all times the property of the Company and to be used by the Employee in accordance with Company guidelines. Upon the Employee's termination of employment for any reason, the Employee will be obligated to immediately return the laptop to the Company.

(vi) Business Expenses. The Employee will be eligible for reimbursement of preapproved reasonable business expenses, including cell phone expenses as per a mutually agreed upon cell phone plan, as well as other expenses incurred in accordance with the Company's business expense reimbursement policies, as may be updated from time to time by the Company.

(vii) Additional Employee Benefits. The Company shall make available to the Employee additional employee benefits, including Long Term Disability and Accidental Death and Dismemberment coverage, and the Employee shall have the option to elect such coverage in accordance with the terms of such benefit plans.

(viii) Section 409A of the Internal Revenue Code of 1986. as amended. The Parties hereby affirm that with respect to any and all payments and benefits under this Agreement, the intent is that such payments and benefits either: (i) do not constitute " nonqualified deferred compensation" within the meaning of Section 409A of the Internal Revenue Code ("Section 409A"), and therefore are exempt from Section 409A, (ii) are subject to a "substantial risk of forfeiture" and are exempt from Section 409A under the "short-term deferral rule" set forth in Treasury Regulation §1.409A-l(b)(4), or (iii) are in compliance with Section 409A. In any event, the Parties further confirm that they intend to have all provisions of this Agreement construed, interpreted and administered in a manner consistent with the requirements for avoiding taxes or penalties under Section 409A.

(e) The Employee shall be responsible for the payment of applicable taxes and other compulsory payments imposed by law on the Employee, in respect of, or resulting from, the compensation and the benefits paid or granted to, or received by the Employee, or contributed by the Company, or to which the Employee is or may be entitled, pursuant to this Agreement or the Employee's employment with the Company. The Company shall withhold or deduct from any payment or compensation to which the Employee is entitled, applicable amounts as required by law.

7. Termination. The Employee's Employment hereunder may be terminated without breach of this Agreement as set forth below:

(a) Death; Disability. The Employee's Employment hereunder shall terminate upon the Employee's death or "Disability" (as hereafter defined). Upon any such termination, the Employee (or, in the event of the Employee's death, the Employee's estate) shall receive the Base Salary through the "Date of Termination" (as hereafter defined), as well as reimbursement for unpaid business expenses through such date. The Employee (and, in the event of the Employee's death, the Employee's estate) shall not be entitled to any other amounts or benefits from the Company or otherwise. For purposes of this Agreement, "Disability" shall mean the inability of the Employee to perform the Employee's duties on account of a physical or mental illness for a period of sixty (60) consecutive days, or for ninety (90) days in any six (6) month period. Notwithstanding anything contained herein to the contrary, during any period of Disability, the Company shall not be obligated to pay any compensation or other amounts to the Employee, except as mandated by applicable law.

(b) Cause. The Company may terminate the Employee's Employment hereunder for Cause at any time without advance notice.

(i) For purposes of this Agreement, the Company shall have "Cause" to terminate the Employee's Employment hereunder upon the Employee' s:

(1) commission of fraud, embezzlement, gross negligence, malfeasance, an act or acts constituting a felony under the laws of the United States or any state thereof, or a willful or negligent act or omission which results in an assessment of a civil or criminal penalty against the Employee, or the Company or its affiliates;

(2) willful or continued failure to substantially perform the Employee's duties as directed by the Company; or

(3) violation of the terms of this Agreement or of the Undertaking (as defined below) attached hereto as Schedule B.

(ii) In the event that the Company terminates the Employee's Employment for Cause, the Employee shall receive the Base Salary through the Date of Termination, as well as reimbursement for approved but unpaid business expenses through such date. The Employee shall not be entitled to any other amounts or benefits from the Company.

(c) Termination without Cause/Resignation. The Employee's Employment hereunder may be terminated (i) at any time following the Start Date, by the Company without Cause, or (ii) following the three (3) month anniversary of the Start Date, by the Employee upon the Employee's resignation. It is agreed that in the event of the termination of the Employee' s employment by the Company without Cause, or the Employee's resignation, in either case prior to the three (3) month anniversary of the Start Date, the terminating Party shall give the other Party one (1) month notice of such termination; in the event of the termination of the Employee's employment by the Company without Cause, or the Employee's resignation, in either case after the three (3) month anniversary of the Start Date, then the terminating Party shall give the other Party three (3) months' notice of such termination. In the event of the Employee's Termination without Cause or resignation: (i) any notice of such termination or resignation shall be given in accordance with Section 7(d) hereunder; (ii) the Employee shall receive the Base Salary and reimbursement for any approved but unpaid business expenses through the Date of Termination, and (iii) the Company shall have the right to determine whether or not the Employee will actively work during the applicable notice period.

(d) Notice of Termination. Any termination of the Employee's Employment by the Company or by the Employee (other than termination upon the death of Employee) shall be communicated by written Notice of Termination by such Party to the other in accordance with Section 9 of this Agreement. Such Notice of Termination shall specify the last day of the Employee's Employment with the Company.

(e) Date of Termination. "Date of Termination" shall mean: (i) if the Employee's Employment is terminated by the Employee's death, the date of the Employee's death, or (ii) if the Employee's Employment is terminated pursuant to any of the other terms set forth herein, the date specified in the Notice of Termination.

(f) Transition. Regardless of the circumstances surrounding the Employee's termination of Employment, the Employee hereby agrees that upon the Employee's termination of Employment, the Employee will return to the Company al l Company property and will make every effort to facilitate the orderly transition of the Employee's duties and responsibilities.

(g) Post-Termination Severance Pay. In the event that the Employee's employment is terminated by the Company without Cause after the three (3) month anniversary of the Start Date, or by the Employee for Good Reason after the six (6) month anniversary of the Start Date, the Employee will be entitled to a monthly payment equal to the monthly rate of the Base

Salary as in effect on the Date of Termination, which monthly payment shall be (i) for a period of three (3) months following the Date of Termination, if such termination is by the Company without Cause after the three (3) month anniversary of the Start Date but prior to the twelve (12) month anniversary of the Start Date, or (ii) for a period of six (6) months following the Date of Termination, if such termination is by the Company without Cause after the twelve (12) month anniversary of the Start Date, or (iii) for a period of three (3) months following the Date of Termination, if the Employee's employment is terminated by the Employee for Good Reason (such payments, collectively, the "Severance Pay"). It is hereby clarified that the Employee shall not be entitled to the Severance Pay in the event that the Company terminates the Employee's employment for Cause, or if the Company terminates the Employee's employment without Cause prior to the three (3) month anniversary of the Start Date, or if the Employee resigns not for Good Reason, or if the Employee resigns for Good Reason prior to the six (6) month anniversary of the Start Date. The Employee's entitlement to the Severance Pay shall be dependent upon the Employee properly executing (and not revoking, as applicable) a Release Agreement in a form set forth by the Board.

For purposes of this Agreement, in the event that without the Employee's consent: (i) the Company requires the Employee to relocate to a geographic area that is more than 80 kilometers from the residence established by the Employee at the commencement of the Term; or (ii) as compared to the commencement of the Term, the Employee is demoted to a position that is of materially less authority and stature, and there is a material reduction in the Employee's duties and responsibilities, unless such demotion and reduction takes place within six (6) months following an M&A Transaction and is implemented in connection with a contemporaneous change affecting other similarly ranked employees of the Company (in which case such demotion and reduction shall not qualify as Good Reason pursuant to this paragraph for any purpose whatsoever); or (iii) there is a material reduction in Employee's annual base salary and benefits as set forth in this Agreement, unless such a reduction is implemented in connection with a contemporaneous reduction affecting other similarly ranked employees of the Company (in which case such reduction shall not qualify as Good Reason pursuant to this paragraph for any purpose whatsoever); then each one of such circumstances shall be considered grounds for the Employee to resign on account of "Good Reason," (each circumstance, a "Good Reason Trigger"), as long as (1) within thirty (30) days of any Good Reason Trigger, the Employee issues a written notice to the Company informing the Company that the Employee shall resign on account of Good Reason if the Company does not cure the Good Reason Trigger, (2) the Company fails to cure the Good Reason Trigger within thirty (30) days of receiving such written notice from the Employee, and (3) the Employee issues a written notice of resignation for Good Reason, and such written notice is received by the Company by no later than seven (7) days following the Company's deadline to cure the Good Reason Trigger. For purposes of this Section 7(g), an "M&A Transaction" shall be defined as the occurrence following the Start Date of any one of the following events: (i) the sale or transfer of all or substantially all of the assets of the Company and its subsidiaries taken as a whole to a third party, except where such sale or transfer is to a wholly owned subsidiary of the Company, or (ii) the merger or consolidation of the Company with or into a third party, except any such merger or consolidation in which the shares of Company's capital stock outstanding immediately prior to such merger or consolidation continue to represent, or are converted into or exchanged for shares of capital stock that represent, immediately following such merger or consolidation, at least a majority, by voting power, of the capital stock of the surviving or resulting corporation (or if the surviving or resulting corporation is a wholly owned subsidiary of another corporation immediately following such merger or consolidation, the parent corporation of such surviving or resulting corporation).

8. Employee Representations.

(a) The Employee hereby represents and warrants that the Employee's performance of the terms of this Agreement will not breach any written or oral agreement entered into by the Employee with a former employer or with any other third party. The Employee further represents and warrants that the Employee will not engage in additional employment or recreational activities that would in any way pose a conflict of interest with the Employment.

(b) The Employee hereby confirms that the Employee is not owed any amounts or entitled to any benefits from the Company and/or its affiliates for any period (if any) of employment, consulting or services provided by the Employee prior to the Effective Date, whether to the Company or to any of its affiliated entities, and that the Employee has been paid in full any amounts which may be due to the Employee on the part of the Company and/or its affiliates on account of any such period of employment, consulting or services provided.

(c) The Employee hereby acknowledges that the Employee's signing of the Confidentiality, Unfair Competition and Ownership of Inventions Undertaking attached hereto as Schedule B (the "Undertaking") constitutes a precondition of the Employment. The Employee further affirms that this Agreement and the Undertaking constitute the entire understanding of the Parties with respect to the subject matter hereof and supersede any understanding or agreement, whether oral or written between the Company and the Employee.

(d) The Employee understands that the Employment and obligations of the Company pursuant to this Agreement are conditioned upon the Employee's presenting to the Company and maintaining, in each case as required by applicable law, authorization to work in the United States. It is understood that absent such work authorization, the terms of this Agreement shall be null and void, and the Company shall have no obligations hereunder. In the event that the Employee is actively employed by the Company at the time of a lapse in the Employee's work authorization for any reason, the Employment shall immediately terminate and the Company shall have no obligations with respect to the Employee or pursuant to this Agreement.

(e) The Employee acknowledges that the Employee has been advised to obtain independent counsel to evaluate the terms, conditions and covenants set forth in this Agreement and its attached Schedule B, and the Employee has been afforded ample opportunity to obtain such independent advice and evaluation. The Employee warrants to the Company that the Employee has relied upon such independent counsel and not upon any representation (legal or otherwise), statement or advice said or offered by the Company or the Company's counsel in connection with this Agreement.

9. Notices. All notices and other communications under this Agreement shall be in writing and shall be given by email or first-class mail, certified or registered, and shall be deemed to have been duly given three (3) days after mailing, twenty-four (24) hours after transmission of email, or immediately upon acknowledgement of receipt, as follows:

If to the Company: Ayala Pharmaceuticals, Inc.
c/o PHS Corporate Services 1313
N. Market Street, Suite 5100
Wilmington, DE 19801

If to the Employee: Gary Gordon
[XXX]

or as otherwise indicated as per the Company's personnel records for the Employee.

10. Remedies of the Company. Upon any termination of the Employment for Cause, the reasons for which may cause irreparable harm to the Company, the Company shall be entitled to institute and prosecute proceedings to obtain injunctive relief and damages, costs and expenses, including, without limitation, reasonable attorneys' fees and expenses.

11. Arbitration. Except as set forth above in Section 10 above and as set forth in the Undertaking, the Employee and the Company agree that any claim, controversy or dispute between the Employee and the Company (including, without limitation, its affiliates, officers, Employees, representative or agents) arising out of or relating to this Agreement, the Employment of the Employee, the cessation of Employment of the Employee, or any matter relating to the foregoing (with the exception of claims with respect to which a party is not permitted to waive the right to adjudicate in a court of law) shall be submitted to and settled by arbitration pursuant to the Federal Arbitration Act in a forum of the American Arbitration Association ("AAA") located in the State of Illinois and applying the substantive law of the State of Illinois, unless otherwise mutually agreed upon by the Parties, and conducted in accordance with the National Rules for the Resolution of Employment Disputes. In such arbitration, the Parties shall agree upon a single arbitrator, who shall: (i) agree to treat as confidential evidence and other information presented by the Parties to the same extent as Confidential Information under the Undertaking must be held confidential by the Employee, (ii) have no authority to amend or modify any of the terms of this Agreement, and (iii) have ten (10) business days from the closing statements or submission of post-hearing briefs by the Parties to render his or her decision. Any arbitration award shall be final and binding upon the Parties, and any court, state or federal, having jurisdiction may enter a judgment on the award.

12. Enforceability of this Agreement.

(a) The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision hereunder. If a court of competent jurisdiction determines that any portion of this Agreement is in violation of any statute or public policy only the portions of this Agreement that violate such statute or public policy shall be stricken, and all other portions of this Agreement that do not violate any statute or public policy shall continue in full force and effect. Further, if any one or more of the provisions contained in this Agreement is determined by a court of competent jurisdiction in any State to be excessively broad as to duration, scope, activity or subject, or is unreasonable or unenforceable under the laws of such State, such provisions will be construed by limiting, reducing, modifying or amending them so as to be enforceable to the maximum extent permitted by the law of that State. If the Agreement is held unenforceable in any jurisdiction, such holding will not impair the enforceability of the Agreement in any other jurisdiction.

(b) This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which together will constitute one and the same instrument.

(c) No provision of this Agreement may be modified, waived or discharged unless such waiver, modification or discharge is agreed to in writing signed by the Employee and the Company. No waiver by either Party hereto at any time or any breach by the other Party hereto of, or compliance with, any condition or provision of this Agreement to be performed by such other Party shall be deemed a waiver of similar or dissimilar provisions or conditions at the same or at any prior or subsequent time.

(d) The validity, interpretation, construction and performance of this Agreement shall be governed by the laws of the State of Delaware without regard to its conflicts of law principles, unless otherwise mutually agreed upon by the Parties.

(e) The Company shall have the right to assign its rights and obligations under this Agreement to any individual, entity, corporation or partnership that succeeds to all or a portion of the relevant business or assets of the Company. This Agreement is personal to the Employee, and the Employee may not assign the Employee's rights and obligations under this Agreement to any third party.

[Signature Page Follows]

IN WITNESS WHEREOF, the Parties have executed this Employment Agreement as set forth below.

AYALA PHARMACEUTICALS, INC.

By: /s/ Roni Mamluk
Dr. Roni Mamluk, CEO

By: /s/ David Sidransky
Dr. David Sidransky, Director

Date:

GARY GORDON

/s/ Gary Gordon

Date: 23 July 2019

[Signature Page to Employment Agreement/ July 2019]

SCHEDULE A:
EMPLOYEE DUTIES

During the Term (as defined in the employment agreement to which this Schedule A is attached), with respect to the Chief Medical Officer position for Ayala Pharmaceuticals Inc. (the "Company"), Gary B. Gordon (the "Employee") shall have duties including but not limited to the following:

- Take responsibility for the Company's clinical and medical affairs strategy, resourcing and execution
- Represent the Company's clinical and medical aspects internally, with respect to regulatory authorities, and in business interactions (e.g., investors and business partners)
- Design the Company's clinical programs
- Direct and oversee the Company's clinical trial design and implementation
- Oversee the scientific and medical aspects of the Company's clinical programs
- Prepare the Company's official documents for regulatory agencies

It is understood that the above duties may be modified from time to time by the Company's Board of Directors in accordance with the Company's business needs.

AGREED TO AND ACKNOWLEDGED BY:

/s/ Gary Gordon
GARY GORDON

Date: 23 July 2019

SCHEDULE B:
CONFIDENTIALITY, UNFAIR COMPETITION AND OWNERSHIP OF INVENTIONS UNDERTAKING

This CONFIDENTIALITY, UNFAIR COMPETITION, AND OWNERSHIP OF INVENTIONS UNDERTAKING ("Undertaking") is made and given as of **July 24, 2019, by Gary Gordon** (the "Employee").

WHEREAS, the Employee wishes to be employed with and provide services that are of particular and special value to Ayala Pharmaceuticals, Inc. (together with its direct or indirect affiliates and subsidiaries (including Ayala-Oncology Israel Ltd.), and its and their respective successors and assigns – the "Company"); and

WHEREAS, it is critical for the Company to preserve and protect its Confidential Information, and its rights in Inventions and in all related intellectual property rights;

NOW, THEREFORE, as a condition to Employee's engagement with the Company, Employee hereby undertakes and warrants towards the Company as follows:

1. Confidentiality.

1.1. Employee acknowledges that during the term of the Employee's engagement with the Company, and including any period during which the Employee provided services to any Company entity at any time prior to the date hereof, the Employee may have (or may have had) access to information that relates to the Company, its business, assets, financial condition, affairs, activities, plans and projections, customers, suppliers, partners, and other third parties with whom the Company agreed or may agree, from time to time, to hold information of such parties in confidence (collectively, the "Confidential Information"). Confidential Information shall include, without limitation, information, whether or not marked or designated as confidential, concerning technology, products, research and development, patents, copyrights, Inventions, trade secrets (as defined by the Defend Trade Secrets Act, 18 U.S.C. § 1839(3) and any applicable state law), test results, formulae, processes, data, know-how, marketing, promotion, business and financial plans, policies, practices, strategies, surveys, analyses and forecasts, financial information, customer lists, agreements, transactions, undertakings and data concerning employees, consultants, officers, directors, and shareholders. Confidential Information includes information in any form or media, whether documentary, written, oral, magnetic, electronically transmitted, through presentation or demonstration or computer generated. Confidential Information shall not include information that has become part of the public domain not as a result of a breach of any obligation owed by the Employee to the Company or any third party.

1.2. Employee acknowledges and understands that the engagement of the Employee with the Company and the Employee's access to Confidential Information creates a relationship of confidence and trust with respect to such Confidential Information.

1.3. During the term of the Employee's engagement with the Company and at any time after termination or expiration thereof, for whatever reason, subject to Section 1.4 below, Employee shall keep in strict confidence and trust, shall safeguard, and shall not disclose to any person or entity, nor use for the benefit of any party other than the Company, any Confidential

Information, other than with the prior express consent of the Company, unless the Employee has an independent right or obligation to make such disclosure pursuant to applicable local, state or federal law, provided, that Employee gives the Company prompt notice of such requirement to disclose such Confidential Information (unless Employee is prohibited by law from to issuing such notice, or unless issuing such notice is not practically feasible, and in the latter case the Employee shall issue notice to the Company as soon as it is practically feasible to do so) so that the Company may seek a protective order or other appropriate remedy, and provided further, that Employee shall furnish only that portion of the Confidential Information that is legally required to be disclosed, and shall exercise all reasonable efforts to obtain confidential treatment for such information.

1.4. Notice of Immunity: Employee acknowledges that via this paragraph the Company is providing the Employee with written notice that the Defend Trade Secrets Act, 18 U.S.C. § 1833(b), provides immunity for the disclosure of a trade secret for the purpose of reporting a suspected violation of law and/or in an anti-retaliation lawsuit, in that (i) an individual shall not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that is made in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney, in each case solely for the purpose of reporting or investigating a suspected violation of law, or where such disclosure is made via a complaint or other document filed in a lawsuit or other proceeding, as long as such filing is made under seal, and (ii) an individual who files a lawsuit for retaliation by an employer or contracting party on account of the individual having reporting a suspected violation of law, may disclose the relevant trade secret to the individual's attorney and may use such trade secret information in the applicable court proceeding, as long as any document containing such trade secret is filed under seal, and as long as the individual does not disclose such trade secret, except pursuant to court order.

1.5. All right, title and interest in and to Confidential Information are and shall remain the exclusive property solely of the Company or the property of the third party providing such Confidential Information to the Company, as the case may be. Without limitation of the foregoing, Employee agrees and acknowledges that all memoranda, books, notes, records, email transmissions, charts, formulae, specifications, lists and other documents (contained on any media whatsoever) made, reproduced, compiled, received, held or used by Employee in connection with the engagement with the Company or that otherwise relates to any Confidential Information (the "Confidential Materials"), shall be the exclusive property solely of the Company and shall be deemed to be Confidential information. All originals, copies, reproductions and summaries of the Confidential Materials shall be delivered by Employee to the Company upon termination or expiration of Employee's engagement with the Company for any reason, or at any earlier time at the request of the Company, without Employee retaining any copies thereof.

1.6. During the term of Employee's engagement with the Company, Employee shall not remove from the Company's offices or premises any Confidential Materials unless and to the extent necessary in connection with the duties and responsibilities of the Employee and permitted pursuant to the then applicable policies and regulations of the Company. In the event that any such Confidential Materials are duly removed from the Company's offices or premises, Employee shall take all actions necessary in order to secure the safekeeping and confidentiality of such Confidential Materials and return the Confidential Materials to their proper files or location as promptly as possible after such use.

1.7. During the term of Employee's engagement with the Company, Employee will not improperly use or disclose any Confidential Information, and will not bring onto the premises of the Company any unpublished documents or any property, in each case belonging to any former employer or any other party to whom Employee has an obligation of confidentiality and/or non-use (including, without limitation, any academic institution or any entity related thereto), unless generally available to the public or consented to by such third party in a writing addressed to the Company.

2. Unfair Competition and Non-Solicitation.

2.1. Employee undertakes that during the term of engagement with the Company and for a period of twelve (12) months thereafter, Employee shall not (i) work (whether independently or on behalf of another party) in a position similar to the position held by Employee when employed by the Company, if such involvement on the part of Employee will have the likely effect of reducing the business volume or monetary profits of the Company; (ii) solicit, hire or retain as an employee, consultant or otherwise, any management level employee of the Company, or other employee essential to the Company's business, or induce or attempt to induce any such employee to terminate or reduce the scope of such employee's employment with the Company; and/or (iii) solicit or induce, or attempt to solicit or induce, any party that is, at the time of such solicitation, a business partner, agent, distributor, supplier or customer of the Company, to terminate, reduce or modify the scope of its or their engagement with the Company or work for, in any capacity, a competitor of the Company. It is understood that the restrictions of this paragraph shall apply only to those states in the United States in which the Company engaged, or took active steps toward engaging, in such business during the period of Employee's employment at the Company. By signing this Agreement, Employee represents and confirms that the restrictions set forth in this paragraph are reasonable, necessary for purposes of protecting the Company's legitimate business interests, and are not unduly burdensome, financially or otherwise, for the Employee.

2.2. Employee acknowledges that Employee's position with the Company is uniquely essential to the management and organization of the Company's business, and in view of Employee's exposure to, and involvement in, the Company's sensitive and valuable proprietary information, intellectual property and technologies, Confidential Information and Confidential Materials (the "Company's Material Assets"), the provisions of this Section 2 are reasonable and necessary to legitimately protect the Company's Material Assets, and are being undertaken by Employee as a condition to the engagement of Employee by the Company. Employee confirms that Employee has carefully reviewed the provisions of this Section 2, fully understands the consequences thereof and has assessed the respective advantages and disadvantages to Employee of entering into this Undertaking and, specifically, Section 2 hereof. Employee understands that, Employee has the right to consult with counsel prior to signing this Undertaking. By signing this Undertaking, Employee confirms that Employee has had ample time to exercise such right.

2.3. It is agreed that the restrictions set forth in Section 2.1 include all cities, counties and states of the United States, and all other countries in which the Company conducted business during the time of Employee's employment, whether or not the Company has or had an actual physical presence in such location. Employee acknowledges that the scope and period of restrictions and the geographical area to which the restrictions apply are fair and reasonable and are reasonably required for the protection of the legitimate business interests of the Company.

3. Ownership of Inventions.

3.1. Employee will notify and disclose in writing to the Company, or any persons designated by the Company from time to time, all information, improvements, inventions, trademarks, works, designs, trade secrets, formulae, processes, techniques, know-how and data, whether or not patentable or registerable under copyright or any similar laws, made or conceived or reduced to practice or learned by Employee, either alone or jointly with others, during Employee's engagement with the Company (including after hours, on weekends or during vacation time) (all such information, improvements, inventions, trademarks, works, designs, trade secrets, formulae, processes, techniques, know-how, and data are hereinafter referred to as the "Invention(s)") immediately upon discovery, receipt or invention as applicable.

3.2. Employee agrees that all of the Inventions are, upon creation, considered Inventions of the Company, shall be the exclusive property solely of the Company and its assignees, and the Company and its assignees shall be the sole owner of all patents, copyrights, trade secrets and all other rights of any kind or nature, including moral rights, in connection with such Inventions. Employee hereby irrevocably and unconditionally assigns to the Company all the following with respect to any and all Inventions: (i) title, rights and interest in and to such Inventions, (ii) title, rights and interest in and to any patents, patent applications, and patent rights, including any and all continuations or extensions thereof; (iii) rights associated with works of authorship, including copyrights and copyright applications, Moral Rights (as defined below) and mask work rights; (iv) rights relating to the protection of trade secrets and confidential information; (v) design rights and industrial property rights; (vi) any other proprietary rights relating to intangible property including trademarks, service marks and applications therefor, trade names and packaging and all goodwill associated with the same; and (vii) all rights to sue for any infringement of any of the foregoing rights and the right to all income, royalties, damages and payments with respect to any of the foregoing rights. Employee also hereby forever waives and agrees never to assert any and all Moral Rights Employee may have in or with respect to any Inventions, even after termination of Employee's engagement with the Company. "Moral Rights" means any right to claim authorship of a work, any right to object to any distortion or other modification of a work, and any similar right, existing under the law of any country in the world, or under any treaty. The Employee further acknowledges and agrees that all copyrightable works included in the Inventions shall be "works made for hire" within the meaning of the Copyright Act of 1976, as amended (17 U.S.C. §101) (the "Act"), and that the Company shall be the "author" within the meaning of the Act.

3.3. Employee represents that there are no information, improvements, inventions, formulae, processes, techniques, know-how and data, whether or not patentable or registerable under copyright or any similar laws, and whether or not reduced to practice, original works of authorship and trade secrets made or conceived by or belonging to Employee (whether made solely by the Employee or jointly with others) that: (i) were developed by the Employee prior to Employee's engagement with the Company, (ii) relate to the Company's actual or proposed business, products or research and development, and (iii) are not assigned to the Company hereunder.

3.4. Employee further agrees to perform, during and after Employee's engagement with the Company, all acts deemed reasonably necessary or desirable by the Company to permit and assist it, at the Company's expense, in obtaining, maintaining, defending and enforcing the Inventions in any and all countries, *provided that*, in the event that the Company requests that Employee perform any such acts once Employee is no longer employed at the Company, then the Company shall compensate Employee at a commercially reasonable hourly rate for Employee's time spent with respect to such matters. Such acts may include, but are not limited to, execution of documents and assistance or cooperation in legal proceedings. Employee hereby irrevocably designates and appoints the Company and its duly authorized officers and agents, as Employee's agents and attorneys-in-fact to act for and on Employee's behalf and instead of Employee, to execute and file any documents and to do all other lawfully permitted acts to further the above purposes with the same legal force and effect as if executed by Employee.

3.5. Employee shall not be entitled, with respect to any and all of the above, to any monetary consideration or any other consideration except as explicitly set forth in the engagement agreement between Employee and the Company. Without limitation of the foregoing, Employee irrevocably confirms that the consideration explicitly set forth in Employee's engagement agreement with the Company is in lieu of any rights for compensation that may arise in connection with the Inventions under applicable law and waives any right to claim royalties or other consideration with respect to any Invention, under any applicable law, including under Section 134 of the Israeli Patent Law, 1967 (or any successor or equivalent law in any jurisdiction). With respect to any and all of the above, any oral understanding, communication or agreement not memorialized in writing and duly signed by an authorized officer of the Company, shall be void.

4. General.

4.1. Employee represents that the performance of all the terms of this Undertaking and of all of Employee's duties and services to the Company does not and will not breach any invention assignment, proprietary information, non-compete, confidentiality or similar agreements with, or rules, regulations or policies of, any former employer or other party (including, without limitation, any academic institution or any entity related thereto). Employee acknowledges that the Company is relying upon the truthfulness and accuracy of such representations in engaging Employee.

4.2. Employee acknowledges that the provisions of this Undertaking serve as an integral part of the terms of Employee's engagement with the Company and reflect the reasonable requirements of the Company in order to protect its legitimate interests with respect to the subject matter hereof. The Employee hereby explicitly acknowledges that the restrictions set forth in this Undertaking are not greater than required and do not unduly burden the Employee.

4.3. The Employee hereby consents that, following the termination or expiration of the employment relationship hereunder, the Company may notify the Employee's new employer about the Employee's rights and obligations under this Undertaking.

4.4. It is agreed and understood that if a court of law finds that the Employee has violated Section 2 of this Undertaking, then the restrictions set forth in such section shall automatically be extended for any period of time for which the court finds that the Employee violated such restrictions.

4.5. Employee recognizes and acknowledges that in the event of a breach or threatened breach of this Undertaking by Employee, the Company may suffer irreparable harm or damage and that under such circumstances monetary remedies would be inadequate to protect against any actual or threatened breach of this Undertaking. Without prejudice to any other rights and/or remedies otherwise available to the Company, it is therefore agreed that the Company will be entitled to the granting of equitable relief, including but not limited to injunctive relief and specific performance, in favor of the Company without proof of actual damages to remedy or prevent any breach of this Undertaking (without limitation to any other remedy at law or in equity).

4.6. This Undertaking shall be governed by and construed in accordance with the laws of the State of Delaware, without giving effect to any conflict of laws principles which may result in the application of the laws of any other jurisdiction. Any and all disputes in connection with this Undertaking shall be submitted to the exclusive jurisdiction of the competent courts or tribunals, as applicable, located in the State of Delaware. It is agreed that each party irrevocably consents to the exercise of personal jurisdiction over such party by such court, agrees that venue shall be proper in such court, and irrevocably waives and releases any and all defenses based on lack of personal jurisdiction, improper venue or Forum Non Conveniens.

4.7. If any provision of this Undertaking is determined by any court of competent jurisdiction to be invalid, illegal or unenforceable in any respect, such provision will be enforced to the maximum extent possible given the intent of the parties hereto. If such clause or provision cannot be so enforced, such provision shall be stricken from this Undertaking only with respect to such jurisdiction in which such clause or provision cannot be enforced, and the remainder of this Undertaking shall be enforced as if such invalid, illegal or unenforceable clause or provision had (to the extent not enforceable) never been contained in this Undertaking. In addition, if any particular provision contained in this Undertaking shall for any reason be held to be excessively broad as to duration, geographical scope, activity or subject, it shall be construed by limiting and reducing the scope of such provision so that the provision is enforceable to the fullest extent compatible with applicable law.

4.8. The provisions of this Undertaking shall continue and remain in full force and effect following the termination or expiration of the engagement between the Company and Employee, for whatever reason. This Undertaking shall not serve in any manner so as to derogate from any of Employee’s obligations and liabilities under any applicable law.

4.9. This Undertaking constitutes the entire agreement between Employee and the Company with respect to the subject matter hereof and supersedes all prior agreements, proposals, understandings and arrangements, if any, whether oral or written, with respect to the subject matter hereof. No amendment, waiver or modification of any obligation under this Undertaking will be enforceable unless set forth in a writing signed by an authorized officer of the Company. No delay or failure to require performance of any provision of this Undertaking shall constitute a waiver of that provision as to that or any other instance. No waiver granted under this Undertaking as to any one provision herein shall constitute a subsequent waiver of such provision or of any other provision herein, nor shall it constitute the waiver of any performance other than the actual performance specifically waived.

4.10. All notices and other communications under this Undertaking shall be in writing and shall be given in person, by fax, electronic or certified or registered mail, and shall be deemed to have been duly given twenty-four (24) hours after transmission of a fax or electronic email, three (3) days after sending a notice by certified or registered mail, or immediately upon delivery in person or explicit confirmation of receipt.

4.11. This Undertaking, the rights of the Company hereunder, and the obligations of Employee hereunder, will be binding upon and inure to the benefit of their respective successors, assigns, heirs, executors, administrators and legal representatives. The Company may assign any of its rights under this Undertaking. Employee may not assign, whether voluntarily or by operation of law, any of its obligations under this Undertaking, except with the prior written consent of an authorized officer of the Company.

IN WITNESS WHEREOF, the undersigned has executed and delivered this CONFIDENTIALITY, UNFAIR COMPETITION AND OWNERSHIP OF INVENTIONS UNDERTAKING effective as of the date first mentioned above.

Employee:

/s/ Gary Gordon Date: 23 July 2019

GARY GORDON

May 2, 2020
Strictly Private & Confidential

Dear Gary Gordon,

Re: Change of Employment Terms

Following the approval of the board of directors of Ayala Pharmaceuticals Inc. (the "Company"), we wish to set forth in writing the changes to your employment terms effective as of January 1, 2020 (the "Effective Date"), as follows:

1. The following shall be added to the end of Subsection 6(d)(viii) of the employment agreement dated as of July 24, 2019 between you and the Company (the "Employment Agreement"):

   "In addition, notwithstanding anything in this Agreement to the contrary, no amount deemed deferred compensation subject to Section 409A that is designated to be paid upon the Employee's termination of employment shall be payable pursuant to this Agreement unless the Employee's termination of employment constitutes a "separation from service" with the Company within the meaning of Section 409A (a "Separation from Service"). Notwithstanding anything in this Agreement to the contrary, if the Employee is deemed by the Company at the time of the Employee's Separation from Service to be a "specified employee" for purposes of Section 409A, to the extent delayed commencement of any portion of the benefits to which the Employee is entitled under this Agreement is required in order to avoid a prohibited distribution under Section 409A, such portion of the Employee's benefits shall not be provided to the Employee prior to the earlier of (A) the expiration of the six-month period measured from the date of the Employee's Separation from Service with the Company or (B) the date of the Employee's death. Upon the first business day following the expiration of the applicable Section 409A period, all payments deferred pursuant to the preceding sentence will be paid in a lump-sum to the Employee (or the Employee's estate or beneficiaries), and any remaining payments due to the Employee under this Agreement shall be paid as otherwise provided herein. For purposes of Section 409A, the Employee's right to receive any installment payments under this Agreement will be treated as a right to receive a series of separate payments and, accordingly, each such installment payment shall at all times be considered a separate and distinct payment."

2. The last sentence of the first paragraph of Section 7(g) of the Employment Agreement shall be replaced in its entirety with the following:

   "The Employee's entitlement to the Severance Pay shall be subject to the Employee's execution of a Waiver and Release Agreement in a form set forth by the Company (a "Release Agreement") that becomes effective and irrevocable within sixty (60) days following the Date of Termination, and the Severance Pay shall commence to be paid on the first payroll date following the date the Release Agreement becomes effective and irrevocable with the first installment to include any amount that would have been paid had the Release Agreement been effective and irrevocable on the Date of Termination, provided that, if the period of time during which the Employee may deliver or revoke the Release Agreement begins in one year and ends in another, payment of the Severance Pay will in all events commence in the second year."

3. The following Subsection (h) shall be added to Section 7 of the Employment Agreement:

"(h). Special Termination Benefits - If the Employee's employment is terminated by the Company without Cause (as defined under Company's 2017 Stock Incentive Plan, as amended (the "Plan")) or the Employee resigns for Justified Reason (as defined below in this Subsection (h)), in each case, on or within twelve (12) months following a Merger/Sale (as defined in the Plan), then the Employee shall be entitled to the following: (i) a termination payment in the form of a cash amount equal to the sum of the Employee's annual Base Salary and Employee's target annual bonus (as applicable) for the year of termination (the "Special Severance Pay"), less applicable withholdings and deductions, and (ii) all unvested Awards (as defined under the Plan) then held by the Employee shall become vested upon the Date of Termination (clauses (i) and (ii), collectively, the "Special Termination Benefits"). The Employee's entitlement to the Special Termination Benefits shall be subject to the Employee's execution of a Release Agreement that becomes effective and irrevocable within sixty (60) days following the Date of Termination, and the Special Severance Pay shall commence to be paid on the first payroll date following the date the Release Agreement becomes effective and irrevocable with the first installment to include any amount that would have been paid had the Release Agreement been effective and irrevocable on the Date of Termination, provided that, if the period of time during which the Employee may deliver or revoke the Release Agreement begins in one year and ends in another, payment of the Special Severance Pay will in all events commence in the second year.

For purposes of this Subsection (h), "Justified Reason" means (A) the Company requires the Employee to relocate to a geographic area that is more than eighty (80) kilometers from the Employee's residence at the time such request is made by the Company; or (B) the Employee is demoted to a position that is of materially less authority and stature, with a material reduction in the Employee's duties and responsibilities, unless such demotion and reduction takes place within twelve (12) months following a Merger/Sale and is implemented in connection with a contemporaneous change affecting other similarly ranked employees of the Company; or (C) there is a material reduction in the Employee's annual base salary and benefits, unless such a reduction is implemented in connection with a contemporaneous reduction affecting other similarly ranked employees of the Company (each of (A), (B) and (C), a "Triggering Event"), in each case where (a) such Triggering Event occurs without the Employee's consent, (b) the Employee notifies the Company in writing, by no later than thirty (30) days following the occurrence of such Triggering Event, that that Employee shall resign on account of such Triggering Event unless the Company cures the circumstances of such Triggering Event, (c) the Company fails to cure such circumstances within thirty (30) days of receiving such written notice from the Employee (such deadline for curing the Triggering Event, the "Cure Deadline"), and (d) the Employee resigns in writing, with such resignation received by the Company by no later than seven (7) days after the Company's Cure Deadline."

Except as set forth above in this letter, there are no other changes to your Employment Agreement, and all other obligations pursuant to such Employment Agreement (including but not limited to your obligations set forth in Schedule B thereof) shall remain unchanged and in full effect, and your confidentiality obligations thereunder shall also apply to the content of this letter, to the extent permitted under applicable law.

This letter supersedes, replaces and annuls our previous letter to you (dated January 1, 2020, entitled 'Change of Employment Terms'), which previous letter is void and of no effect whatsoever.

Again, we thank you for your continuous contribution to the Company.

Yours sincerely,

/s/ Roni Mamluk, Ph.D.
Ayala Pharmaceuticals Inc.
Roni Mamluk, Ph.D.
Chief Executive Officer

Confirmation

I acknowledge my receipt of the above letter and agreement with its terms.

/s/ Gary Gordon	May 2, 2020
Gary Gordon	Date

[Signature Page to Letter Amendment of Employment Agreement / May 2020]

Exhibit 10.8

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

LICENSE AGREEMENT

between

AYALA PHARMACEUTICALS, INC.

and

BRISTOL-MYERS SQUIBB COMPANY

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

LICENSE AGREEMENT

THIS LICENSE AGREEMENT (this "Agreement") is made and entered into as of the date last signed by a party below (the "Effective Date"), by and between **Bristol-Myers Squibb Company**, a Delaware corporation, headquartered at 345 Park Avenue, New York, New York 10154 ("BMS"), and Ayala Pharmaceuticals, Inc.**,** a Delaware corporation, with its principal offices at c/o PHS Corporate Services 1313 N. Market Street, Suite 5100, Wilmington, DE 19801 ("Company"). BMS and Company are sometimes referred to herein individually as a "Party" and collectively as the "Parties."

RECITALS

WHEREAS, BMS and its Affiliates Control (as defined below) certain intellectual property rights with respect to the Licensed Compounds (as defined below); and

WHEREAS, Company desires to obtain from BMS the licenses set forth herein, and BMS desires to grant such licenses to Company, all on the terms and conditions set forth in this Agreement;

NOW, THEREFORE in consideration of the foregoing and the mutual agreements set forth below, the Parties agree as follows:

ARTICLE 1

DEFINITIONS

The terms in this Agreement with initial letters capitalized, whether used in the singular or the plural, shall have the meaning set forth below or, if not listed below, the meaning designated in places throughout this Agreement.

1.1 "Act" means the United States Food, Drug and Cosmetic Act, as amended.

1.2 "Affiliate" of a Person means any other Person which (directly or indirectly) is controlled by, controls or is under common control with such Person. For the purposes of this definition, the term "control" (including, with correlative meanings, the terms "controlled by" and "under common control with") as used with respect to a Person, shall mean the possession, directly or indirectly, of the power to direct, or cause the direction of, the management or policies of such Person, whether through the ownership of voting securities, by contract or otherwise, and "control" shall be presumed to exist if either of the following conditions is met: (i) in the case of a corporate entity, direct or indirect ownership of voting securities entitled to cast at least fifty percent (50%) of the votes in the election of directors or (ii) in the case of a non-corporate entity, direct or indirect ownership of at least fifty percent (50%) of the equity interests with the power to direct the management and policies of such entity.

1.3 "Approval" means, with respect to any Licensed Product in any regulatory jurisdiction, approval from the applicable Regulatory Authority sufficient for the manufacture, distribution, use, marketing, and sale of the Licensed Product in such jurisdiction in accordance with applicable Laws; *provided*, *however* that for purposes of the U.S., Approval means NDA Approval, for purposes of the EU, Approval means MAA Approval and for purposes of Japan, Approval means PMDA Approval.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

1.4 "BMS Know-How" means Know-How that, as of the Effective Date, is Controlled by BMS and directly relates to and is reasonably necessary for, Company's Development and Commercialization of the Licensed Compounds and/or Licensed Products in the Field.

1.5 "BMS Patent Rights" means (a) the patents and patent applications listed in Appendix 1, (b) all divisionals, continuations, continuations-in-part (excluding claims in continuations-in-part that necessarily rely on new matter invented by BMS after the Effective Date) thereof or any other patent application claiming priority directly or indirectly to (i) any of the patents or patent applications in subsection (a), or (ii) any patent or patent application from which the patents or patent applications in (a) claim direct or indirect priority, (c) all patents issuing on any of the foregoing in (a) and (b), (d) all foreign counterparts of any of the foregoing in (a) through (c), including any patent applications filed under the Patent Cooperation Treaty ("PCT Applications"), and (e) all registrations, reissues, re-examinations, supplemental protection certificates, or extensions of any of the foregoing in (a) through (d). BMS Patent Rights shall also include any claims in any patents or patent applications existing as of the Effective Date that are Controlled by BMS and cover the composition of matter of any intermediate or starting material reasonably necessary in or reasonably useful for the manufacture of any Licensed Compound as manufactured by BMS as of the Effective Date. BMS Patent Rights do not include any claims covering the composition of matter of any compound other than (i) a Licensed Compound or (ii) an intermediate or starting material reasonably necessary in or reasonably useful for the manufacture of any Licensed Compound as manufactured by BMS as of the Effective Date.

1.6 "Business Day" or "business day" means a day other than Saturday, Sunday or any day on which commercial banks located in New York, New York or Tel Aviv, Israel are authorized or obligated by Law to close.

1.7 "Calendar Quarter" means the respective periods of three consecutive calendar months ending on March 31, June 30, September 30 and December 31.

1.8 "Calendar Year" means each one-year period commencing on January 1 and ending on December 31.

1.9 "cGMP" means as to the United States and the European Union, applicable good manufacturing practices as in effect in the United States and the European Union, respectively, during the term of this Agreement and, with respect to any other jurisdiction, manufacturing practices equivalent to good manufacturing practices as then in effect in the United States or the European Union.

1.10 "Clinical Trial" means any human clinical study of a pharmaceutical product.

1.11 "Combination Product" means a Licensed Product that includes at least one additional active ingredient other than the Licensed Compound. Drug delivery vehicles, adjuvants, and excipients shall not be deemed to be "active ingredients", except in the case where such delivery vehicle, adjuvant, or excipient is recognized by the FDA as an active ingredient in accordance with 21 CFR 210.3(b)(7).

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

1.12 "Commercialization" or "Commercialize" means activities directed to commercially manufacturing, obtaining pricing and reimbursement approvals and regulatory activities pertaining to same, marketing, promoting, distributing, importing or selling a Licensed Product.

1.13 "Commercially Reasonable Efforts" means[***].

1.14 "Competitive Compound" means any molecule that is not a Licensed Compound and is a Notch Inhibitor as its primary mechanism of action.

1.15 "Conditional MAA Approval" means any conditional MAA Approval granted by the EMA for a Licensed Product pursuant to Regulation (EC) No 726/2004 and Regulation (EC) No 507/2006, and each annual renewal thereof.

1.16 "Confidential Information" means all trade secrets, processes, formulae, data, Know-How, improvements, inventions, chemical or biological materials, techniques, marketing plans, strategies, customer lists, or other information (including all information and materials of a Party's customers and any other Third Party and their consultants) that has been disclosed by a Party to the other Party, regardless of whether any of the foregoing are marked "confidential" or "proprietary" or communicated to the other by the disclosing Party in oral, written, graphic, or electronic form. "Confidential Information" of BMS shall include the BMS Know-How.

1.17 "Confirmed POC Clinical Trial" means a completed POC Clinical Trial that has met both its safety and primary efficacy endpoints.

1.18 "Controlled" or "Controls", when used in reference to intellectual property, shall mean the legal authority or right of a Party (or any of its Affiliates) to grant a license or sublicense of intellectual property rights to the other Party or any Third Party, or to otherwise disclose proprietary or trade secret information to such other Party or to any Third Party, without breaching the terms of any agreement with any Third Party.

1.19 "Designated Approval" means NDA Approval, MAA Approval in any of France, Germany, Italy, Spain or the United Kingdom, or PMDA Approval in Japan.

1.20 "Development" means non-clinical and clinical drug development activities reasonably related to the development and submission of information to a Regulatory Authority, including toxicology, pharmacology and other discovery and pre-clinical efforts, test method development and stability testing, process development, formulation development, development manufacturing, delivery system development, quality assurance and quality control development, clinical studies (including pre- and post-Approval studies but specifically excluding regulatory activities directed to obtaining pricing and reimbursement approvals), statistical analysis, and post-marketing commitments/requirements. When used as a verb, "Develop" means to engage in Development.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

1.21 "Development Plan" means, with respect to a Licensed Product, a plan prepared by Company for the then current Calendar Year and [***] setting forth a summary of the Development activities to be conducted for such Licensed Product, including the indications expected to be targeted, a good faith estimate of reasonable timelines for completing key Development activities and filing of key regulatory submissions (including estimated timelines for commencement of each stage of clinical Development), and including, where known, the primary endpoints and any comparator or any agents used in combination with a Licensed Compound or Licensed Product for any such studies and any go-no-go decision criteria for any such studies. The initial Development Plan as of the Effective Date is attached hereto as Appendix 2, and may be amended by the Company from time to time at the Company's sole discretion. A copy of the study protocol for a given study will be provided to BMS if available and if requested by BMS.

1.22 "Distributor" means, with respect to a country, any Third Party that is used by pharmaceutical manufacturers generally in such country on a non-exclusive basis, and without any intellectual property right or license grant from the pharmaceutical manufacturers, to distribute (but not to market or promote) finished, packaged pharmaceutical products to pharmacies, managed care organizations, governmental agencies (*e.g.*, federal, state and local), and other group purchasing organizations (*e.g.*, pharmaceutical benefits managers) and the like in such country. For clarity, a Distributor of a Licensed Product in a country shall not include any person or entity that has been granted a right, whether by license or otherwise and whether express or implied (including by subcontract or agency), by a Party or its Affiliates to research, Develop or manufacture any such Licensed Product or that otherwise assumes any regulatory or other responsibilities with respect to obtaining or maintaining regulatory approvals for such Licensed Product in such country.

1.23 "Dollar" or "$" means the lawful currency of the United States.

1.24 "EMA" means the European Medicines Agency, or any successor agency thereto.

1.25 "EU" means the member states of the European Union as of the Effective Date (including for the avoidance of doubt, the United Kingdom), and such other countries as may become part of the European Union after the Effective Date. For clarity, to the extent the United Kingdom and/or any other member state of the European Union would not anymore be a member of the European Union after the Effective Date, it shall still be included in this definition of EU for the purposes of this Agreement.

1.26 "FDA" means the U.S. Food and Drug Administration, or any successor agency thereto.

1.27 "Field" means all uses including the prevention, treatment or control of any human or animal disease, disorder or condition.

1.28 "First Commercial Sale" means, with respect to any Licensed Product in a country in the Territory, the first sale for use or consumption by the general public of such Licensed Product in such country after Approval of such Licensed Product in such country has been granted, or such marketing and sale is otherwise permitted, by the Regulatory Authority of such country.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

1.29 "GAAP" means, for entities incorporated or organized in the U.S., generally accepted accounting principles, consistently applied, and for entities incorporated or organized outside the United States, either U.S. generally applicable accounting principles or International Financial Reporting Standards, as consistently used and applied by such entity for its other products.

1.30 "Generic Products" means with respect to a particular Licensed Product in a country, a pharmaceutical product that (a) contains the same or substantially the same active ingredient(s) as such Licensed Product, (b) is approved for use in such country by the applicable Regulatory Authority, whether approved under an NDA, ANDA, an application under 505(b)(2), or any equivalent thereof, or otherwise by a Regulatory Authority and (c) is sold in the same country as such Licensed Product by any Third Party that is not a Sublicensee of Company or its Affiliates and did not purchase such product in a chain of distribution that included any of Company or any of its Affiliates or its Sublicensees.

1.31 "Governmental Authority" means any multi-national, national, federal, state, local, municipal, provincial, county, or other political subdivision, agency or other body, domestic or foreign or other government authority of any nature (including any governmental division, subdivision, department, agency, bureau, branch, office, commission, council, court, tribunal or other entity).

1.32 "IND" means an Investigational New Drug Application, as defined in the Act, filed with the FDA or its foreign counterparts, including as applicable clinical trial applications (CTAs), clinical trial exemptions (CTXs), and investigational medicinal product dossiers.

1.33 "Initiation" means, when used with respect to a Clinical Trial, the dosing of the first patient with the first dose in such Clinical Trial.

1.34 "Know-How" means tangible and intangible information, techniques, technology, practices, inventions (whether patentable or not), methods, knowledge, know-how, trade secrets, data and results (including all biological, chemical, pharmacological, toxicological, clinical, analytical and quality control data and methods (including any applicable reference standards), manufacturing assay and related data, data and results relating to drug substance, drug product, starting materials, and radiolabeled compounds, know-how and trade secrets), but excluding any Patent Rights.

1.35 "Knowledge" means, with respect to a Party or its Affiliates, the actual knowledge of its [***] without any duty to conduct any additional investigations with respect to such facts and information.

1.36 "Laws" means all applicable laws, statutes, rules, regulations and other pronouncements having the effect of law of any Governmental Authority that may be in effect from time to time, including for clarity any applicable rules, regulations and other requirements of any Regulatory Authority that may be in effect from time to time.

1.37 "Licensed Compounds" means the proprietary BMS compounds known as BMS-906024 and BMS-986115 and further described on Appendix 3, and any salt, free acid/base, solvate, hydrate, stereoisomer and polymorphic form thereof, and any prodrug, conjugate or complex thereof.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

1.38 "Licensed Product" means any pharmaceutical product containing a Licensed Compound (alone or with other active ingredients controlled by the Company), in all forms, presentations, formulations and dosage forms.

1.39 "MAA" means a marketing authorization application filed for Approval in the EU of the applicable Licensed Product.

1.40 "MAA Approval" means Approval by the EMA of a MAA filed with the EMA for the applicable Licensed Product under the centralized European procedure. If the centralized EMA filing procedure is not used, MAA Approval shall be achieved upon [***].

1.41 "MAA Filing" means the validation by the EMA of the filing of an MAA for the applicable Licensed Product. If the centralized EMA filing procedure is not used, MAA Filing shall be achieved upon [***].

1.42 "Major Market Countries" means the following countries: [***]. "Major Market Country" means any one of these countries.

1.43 "NDA" means a new drug application filed with the FDA required for marketing approval for the applicable Licensed Product in the U.S.

1.44 "NDA Approval" means the final approval of an NDA for a given indication by the FDA for the applicable Licensed Product in the U.S.; *provided*, that, for milestone payment purposes, NDA Approval shall in any event be deemed achieved upon First Commercial Sale in the U.S. for such Indication.

1.45 "NDA Filing" means the acceptance by the FDA of the filing of an NDA for the applicable Licensed Product.

1.46 "Net Sales" means, with respect to any Licensed Product, the gross amount of monies billed in arm's-length transactions by a Party, an Affiliate of such Party, or any permitted Sublicensee (or such Sublicensee's Affiliates) (all of the foregoing persons and entities, for purposes of this definition and Sections 8.4, 8.6, and 8.7), shall be considered a "Related Party") for sales of such Licensed Product to a Third Party, less the sum of the following (to the extent separately stated on the invoice, actually paid or credited by Company and its Affiliates and Sublicensees in effecting such sale and not reimbursed by any Third Party):

(a) discounts (including cash discounts and quantity discounts), cash and non-cash coupons, retroactive price reductions, charge-back payments and rebates granted to managed care organizations or to federal, state and local governments, their agencies, and purchasers and reimbursers or to customers;

(b) credits or allowances actually granted upon claims, damaged goods, rejections or returns of such Product, including Product returned in connection with recalls or withdrawals;

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(c) freight, postage, shipping, outbound transportation, and insurance charges, but only to the extent separately invoiced in a manner that clearly specifies the charges applicable to the applicable Licensed Products; and

(d) taxes or duties levied on, absorbed or otherwise imposed on sale of the Licensed Product, including import, export, excise and sales taxes, customs duties, value-added taxes, healthcare taxes or other governmental charges otherwise imposed upon the billed amount (to the extent not paid by the Third Party), as adjusted for rebates and refunds, in each case as accounted for by the Related Party recording such Net Sales.

No deduction shall be made for any item of cost incurred by any Related Party in Developing or Commercializing Licensed Products except as permitted pursuant to clauses (a) to (d) of the foregoing sentence; *provided* that, Licensed Products transferred to Third Parties in connection with clinical and non-clinical research and trials, Licensed Product samples, compassionate sales or use, or an indigent program or for similar bona fide business purposes in accordance with applicable local laws and regulations in which a Related Party agrees to forego a normal profit margin for good faith business purposes shall give rise to Net Sales only to the extent that any Related Party invoices or receives amounts therefor exceeding the cost of goods.

Such amounts shall be determined consistent with a Related Party's customary practices and in accordance with GAAP.

It is understood that any accruals for individual items reflected in Net Sales are periodically (at least quarterly) trued up and adjusted by each Related Party consistent with its customary practices and in accordance with GAAP.

Sale or transfer of Licensed Products between any of the Related Parties shall not result in any Net Sales, with Net Sales to be based only on any subsequent sales or dispositions to a non-Related Party. To the extent that any Related Party receives consideration other than or in addition to cash upon the sale or disposition of a Licensed Product to a non-Related Party, Net Sales shall be calculated based on the average price charged for such Licensed Product, as applicable, during the preceding royalty period, or in the absence of such sales, based on the fair market value of the Licensed Products, as determined by the Parties in good faith. For clarity, (i) Net Sales shall not include amounts or other consideration received by a Related Party from a non-Related Party in consideration of the grant of a (sub)license or co-promotion or distribution right to such non-Related Party, *provided* that such consideration is not in lieu of all or a portion of the transfer price of the Licensed Product, (ii) sales to a Third Party Distributor, wholesaler, group purchasing organization, pharmacy benefit manager, or retail chain customer shall be considered sales to a non-Related Party and not to a Sublicensee, (iii) Net Sales by a Related Party to a non-Related Party consignee are not recognized as Net Sales by such Related Party until the non-Related Party consignee sells the Licensed Product and (iv) if a Related Party receives in-kind consideration for the sale of the Licensed Product, then Net Sales shall be calculated as the fair market value of the Licensed Product, as determined by the Parties in good faith.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

In the case of any Combination Product sold in the Territory, Net Sales for such Combination Product shall be calculated by multiplying actual Net Sales of such Combination Product by the fraction A/(A+B) where A is the invoice price of the Licensed Product if sold separately, and B is the total invoice price of the other active ingredient or ingredients in the Combination Product, if sold separately. If, on a country-by-country basis, the other active ingredient or ingredients in the Combination Product are not sold separately in said country, Net Sales for the purpose of determining royalties of the Combination Product shall be calculated by multiplying actual Net Sales of the Combination Product by the fraction C/D, where C is the invoice price of the Licensed Product if sold separately, and D is the invoice price of the Combination Product. If neither the Licensed Product nor the other active ingredient(s) are sold separately in a given country, the Parties shall determine Net Sales in accordance with the formulas provided above in this paragraph [*******] where such Licensed Product or other active ingredient(s) are sold separately, or, if neither the Licensed Product nor the other active ingredient(s) are sold in any other countries, the Parties shall negotiate in good faith a reasonable adjustment to Net Sales in such country that takes into account [*******].

Should Company, its Affiliates or Sublicensees enter into a Third Party agreement for the purchase of a Licensed Product that provides discounts or rebates on such Licensed Product that are conditioned on pricing terms or conditions for purchase of another product or products owned or Controlled by Company, its Affiliates or Sublicensees, as the case may be, then the discount or rebate on such Licensed Product under such agreement shall be determined, for purposes of determining Net Sales under this Agreement for a given accounting period, based on [*******].

1.47 "Notch Inhibitor" means any molecule that acts through binding and inhibiting, one or more of Notch1, Notch2, Notch3, and/or Notch4 receptors.

1.48 "Patent Rights" means (a) patents and patent applications, (b) all divisionals, continuations, continuations-in-part thereof or any other patent application claiming priority directly or indirectly to (i) any of the patents or patent applications in subsection (a), or (ii) any patent or patent application from which the patents or patent applications in (a) claim direct or indirect priority, (c) all patents issuing on any of the foregoing in (a)-(b), (d) all foreign counterparts of any of the foregoing in (a)-(c), including PCT Applications, and (e) all registrations, reissues, re-examinations, supplemental protection certificates, or extensions of any of the foregoing in (a)-(d).

1.49 "Person" means any individual, firm, corporation, partnership, limited liability company, trust, business trust, joint venture, governmental authority, association or other entity.

1.50 "Phase II Trial" means a Clinical Trial of a Licensed Product on a sufficient number of subjects that is designed to explore a variety of doses, dose response, and duration of effect, and to generate initial evidence of clinical safety and activity in a target patient population, as described in 21 C.F.R. 312.21(b), or a similar clinical study prescribed by a Regulatory Authority outside the U.S.

1.51 "Phase III Trial" means a Clinical Trial of a Licensed Product on a sufficient number of subjects that is designed to establish that a pharmaceutical product is safe and efficacious for its intended use, and to determine warnings, precautions, and adverse reactions that are associated with such pharmaceutical product in the dosage range and dose duration to be prescribed, which trial is intended to support Approval of a Licensed Product, as described in 21 C.F.R. 312.21(c), or a similar clinical study prescribed by a Regulatory Authority outside the U.S.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

1.52 "PMDA" means the Japanese Pharmaceutical and Medical Device Agency or its successor, or Ministry of Health, Labour and Welfare.

1.53 "PMDA Approval" means Approval by the PMDA of a MAA filed with the PMDA for the applicable Licensed Product in Japan; *provided*, that, for milestone payment purposes, PMDA Approval shall in any event be deemed achieved upon First Commercial Sale in Japan for such Indication.

1.54 "PMDA Filing" means the acceptance by the PMDA of the filing of an MAA for the applicable Licensed Product in Japan.

1.55 "POC Clinical Trial" means a Clinical Trial intended as a registration trial that will form the basis for obtaining Approval, whether or not such Clinical Trial is designated as a Phase III Trial.

1.56 "Regulatory Authority" means any Governmental Authority, including the FDA, PMDA or EMA, that has responsibility in countries in the Territory over the Development and/or Commercialization of the Licensed Compounds and/or Licensed Products.

1.57 "Sublicense Revenues" means all consideration Company and/or its Affiliates receives from a Sublicensee pursuant to any Sublicense, including any upfront payment, milestone payments and royalty payments, collaboration fee, and premiums on equity investments in Company (with the premium to be reasonably allocated to the value of the Licensed Compound and Licensed Product as compared the Company's compounds and products (if any)), but excluding, for clarity, any amounts received by Company: (a) as bona fide, fair market value, actual reimbursement for research, Development or Commercialization activities performed or paid for by Company after the grant of a License, and only to the extent they are documented and are reasonably detailed in a written report provided to BMS; (b) for reimbursement of Company's fully-burdened cost to manufacture and supply Licensed Products or Licensed Compounds; (c) in the form of bona fide loans made by Sublicensee to Company not forgiven by Sublicensee; (d) payment or reimbursement of reasonable patent expenses actually incurred or paid by Company and not otherwise reimbursed; or (e) payments to Company for the purchase of equity in Company at the fair market value of such equity. For clarity, in the event a Sublicense by Company includes both a grant of rights under any of the rights licensed to Company by BMS under Section 2.1 with respect to any Licensed Product or Licensed Compound and a grant of rights to Patent Rights Controlled by Company other than such rights licensed to Company by BMS under Section 2.1 ("Other Sublicensed IP"), the Parties shall negotiate in good faith a reasonable adjustment to the applicable Sublicense Revenue that takes into account the relative value of the Other Sublicensed IP; *provided* that if the Parties cannot agree on such adjustment then the Parties shall select an independent appraiser to determine such adjustment.

1.58 "Sublicense" means a grant of rights by Company to a Sublicensee under any of the rights licensed to Company by BMS under Section 2.1 with respect to the Development, manufacture, or Commercialization of any Licensed Product or Licensed Compound. For clarity, a Distributor is not considered a Sublicensee.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

1.59 "Sublicense Agreement" means a written, definitive agreement for a Sublicense.

1.60 "Sublicensee" means any Third Party to whom rights are granted under any of the rights licensed to Company by BMS under Section 2.1 with respect to any Licensed Product or Licensed Compound, including through any license, sublicense, co-development, co-discovery, co-promotion, distribution, joint venture, Development and Commercialization collaboration or similar transaction between Company (or an Affiliate of Company) and a Third Party.

1.61 "Territory" means worldwide.

1.62 "Third Party" means any Person other than Company, BMS, and their Sublicensees, and any Affiliates of Company, BMS and their Sublicensees.

1.63 "United States" or "U.S." means the United States of America including Puerto Rico and any U.S. territories and possessions.

1.64 "Valid Claim" means a claim of (i) an issued and unexpired patent or a supplementary protection certificate, which claim has not been held invalid or unenforceable by a court or other government agency of competent jurisdiction from which no appeal can be or has been taken and has not been held or admitted to be invalid or unenforceable through re-examination or disclaimer, opposition procedure, nullity suit or otherwise, or (ii) a pending patent application that has not been finally abandoned, finally rejected or expired; *provided*, *however*, that if a claim of a pending patent application shall not have issued within [***] years ([***]) after the earliest filing date from which such claim takes priority, such claim shall not constitute a Valid Claim for the purposes of this Agreement unless and until a patent issues with such claim.

Additional Definitions. In addition to those terms defined above, definitions for each of the following terms are found in the body of this Agreement as indicated below:

Defined Term	Section
BMS	Preamble
BMS Reversion Products	13.4.1
Company	Preamble
Effective Date	Preamble
Force Majeure	15.3
Indemnification Claim	12.3
Indemnitee	12.3
Indemnitor	12.3
Indication	8.2.1(v)

Inventory Disposal Period	13.4.6
Joint Invention	10.1
Joint Patent Rights	10.1
Know-How Transfer Period	3.1.1
Liability Cap	9.5
Losses and Claims	12.1
"Party" or "Parties"	Preamble
PCT Application	1.5
Pharmacovigilance Agreement	3.5
Related Party	1.46
Reversion cGMP Clinical Materials	13.4.5
Reversion cGMP Commercial Materials	13.4.6
Royalty Term	8.4.2
Safety Reasons	13.3.4
Surviving Sublicensee	2.2.1(g)
TA Period	3.2
Third Party Compensation	8.4.4(a)
Title 11	13.9
Transferred Materials	4.1
Triggering Event	5.6.2

ARTICLE 2

LICENSE GRANT

2.1 BMS Patent Rights and BMS Know-How. Subject to all the terms and conditions set forth in this Agreement, BMS hereby grants to Company a non-transferable (except in accordance with Section 15.4), exclusive license, with the right to grant Sublicenses in accordance with Section 2.2, under the BMS Patent Rights and BMS Know-How solely to research, discover, Develop, make, have made, use, sell, offer to sell, export, import and Commercialize Licensed Compounds and/or Licensed Products in the Field in the Territory.

For clarification, nothing in this Section 2.1 or this Agreement shall be interpreted as a grant of rights to make, have made, sell, use, co-formulate or use in combination a Licensed Compound with any (i) molecule that is not a Licensed Compound and is proprietary to BMS or its Affiliates or would require a license from BMS with respect to the composition, method of use or manufacture of such other molecule, or (ii) that is or could be subject to a governmental grant providing marketing exclusivity with respect to such compound or such product (such as data

exclusivity under the FDA's Orange Book or under national implementations of Article 10.1 of Directive 2001/EC/83), including but not limited to, in each case (i) and (ii), any such compound or such product that is being developed or sold (as of the Effective Date or in the future) by BMS or its Affiliates or by contractors or collaborators with or on behalf of BMS or its Affiliates.

2.2 Sublicenses. Prior to a Confirmed POC Clinical Trial, Company shall have no right to grant Sublicenses with respect to the rights licensed to Company under Section 2.1 without BMS's prior written consent; *provided* that, in each case where BMS provides such prior written consent, such Sublicenses are granted solely in accordance with this Section 2.2. Following a Confirmed POC Clinical Trial, Company shall have the right to grant Sublicenses with respect to the rights licensed to Company under Section 2.1 as follows: (x) to an Affiliate, without the prior written consent of BMS, (y) to a Third Party [*******] and (z) to a Third Party not included in (y), subject to BMS' prior written consent (not to be unreasonably withheld), *provided* that, in each case (x), (y) and (z), such Sublicenses are granted solely in accordance with this Section 2.2. For the purposes of this Section 2.2, [*******].

2.2.1 Company shall have the right to enter into a Sublicense Agreement with a Third Party, *provided* that:

(a) such Sublicense Agreement shall refer to this Agreement and shall be subordinate to and consistent with the terms and conditions of this Agreement, and, shall not limit Company's ability to fully perform all of its obligations under this Agreement or BMS' rights under this Agreement;

(b) in such Sublicense Agreement, the Sublicensee shall agree in writing to be bound to Company by terms and conditions that allow Company to fully perform the corresponding terms and conditions of this Agreement;

(c) within [*******] days after the execution of such Sublicense Agreement, Company shall provide a copy of such Sublicense Agreement to BMS, redacted, only as necessary, to remove content unrelated to obligations due to BMS;

(d) Company shall remain primarily responsible for all payments due and the making of reports under this Agreement by its Sublicensees and for compliance by its Sublicensees with all applicable terms of this Agreement (including, without limitation, its payment obligations under Sections 11.1 and Articles 8 and 10 hereof), and shall use Commercially Reasonable Efforts to monitor such Sublicensees' compliance with the terms of such License. Company shall remain jointly and severally liable with each of its Sublicensees (whether or not such Sublicensee is an Affiliate of Company) for any failure by such Sublicensee to comply with the terms and conditions of this Agreement;

(e) the Sublicensee shall assume and agree in writing to be bound by and comply with the terms and conditions of this Agreement in the same manner as Company, including, without limiting the generality of the foregoing, the Sublicensee shall agree in writing to (i) maintain insurance coverage at no less than the levels set forth in Section 12.4, (ii) keep books and records substantially in accordance with Section 8.7, including permitting audit and inspection rights in accordance with Sections 8.7.3 and 8.7.4, and (iii) the right of termination provided in Section 13.2;

(f) such Sublicensee shall not have the right to grant further Sublicenses with respect to the Development or Commercialization of Licensed Products, except in accordance with and subject to all of the terms and conditions of this Section 2.2 and all of the other terms and conditions of this Agreement;

(g) any Sublicense rights granted by Company in a Sublicense Agreement (to the extent such Sublicense rights are granted to Company in this Agreement) shall terminate effective upon the termination under Article 13 of the license from BMS to Company with respect to such sublicensed rights, *provided* that such Sublicense rights shall not terminate if, as of the effective date of such termination under Article 13, the Sublicensee is not in material breach of its obligations to Company under its Sublicense Agreement, the Sublicensee was previously granted an exclusive Sublicense to Develop and Commercialize the Licensed Products or Licensed Compounds, and within [***] days of such termination the Sublicensee agrees in writing to be bound directly to BMS under a license agreement substantially similar to this Agreement with respect to the rights Sublicensed hereunder, substituting such Sublicensee (a "Surviving Sublicensee") for Company, and *provided further* that (A) such license agreement shall not prejudice any remedy either Party may have against the other in connection with such termination of this Agreement (in whole or in part); (B) the scope of the rights granted to the Surviving Sublicensee under such license agreement (with respect to licensed activities, Licensed Products and territory) shall be equal to the scope of the rights that had been sublicensed by Company to the Surviving Sublicensee pursuant to the Sublicense Agreement; (C) Company shall no longer be obligated under this Agreement to pay amounts set forth in this Agreement, to the extent such amounts are payable based on the activities of such Surviving Sublicensee, its Affiliates and its sublicensees from and after the effective date of such termination; (D) such license agreement shall obligate the Surviving Sublicensee to pay directly to BMS amounts corresponding to those set forth in Article 8 which are payable based on the activities of such Surviving Sublicensee, its Affiliates and its sublicensees from and after the effective date of such termination, as well as any additional financial consideration it had committed to pay Company or any of Company's Affiliates as milestone and royalty obligations and other collaboration fees; (E) the Sublicensee cures any payment default of the Company to BMS as of the effective date of termination; and (F) such license agreement shall not modify the rights and obligations of the Parties following any termination of this Agreement in whole or in part; and

(h) the provisions of this Section 2.2 shall also apply in the event of any subsequent amendment or modification of any such Sublicense Agreement.

2.2.2 For clarity, where provisions of this Agreement provide that Company shall be "solely" responsible or the like with respect to a matter (for example, Sections 5.4, 5.5, or 7.1), it is understood that such responsibilities may be carried out or borne on Company's behalf by an Affiliate of Company or by a permitted Sublicensee or contractor of Company.

2.2.3 It shall be a material breach of this Agreement for Company to enter into any Sublicense hereunder not in compliance with this Section 2.2.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

2.3 No Trademark License. No right or license, express or implied, is granted to Company to use any trademark, trade name, trade dress, domain name, logos, slogans, or service mark owned or Controlled by BMS or any of its Affiliates. Company, at its sole cost and expense, shall be responsible for the selection, registration and maintenance of all trademarks which it employs in connection with Licensed Products and its activities conducted pursuant to this Agreement, if any, and shall own and Control such trademarks.

2.4 No Implied Licenses. No license or other right is or shall be created or granted hereunder by implication, estoppel or otherwise. All such licenses and rights are or shall be granted only as expressly provided in this Agreement.

2.5 Retained Rights. All rights not expressly granted by a Party hereunder are reserved by such Party and may be used by such Party for any purpose. Without limiting the foregoing, BMS retains all rights to use and for its Affiliates to use the Licensed Compounds, the BMS Know-How and the BMS Patent Rights for any internal research purposes in the Field to research, develop and commercialize any molecules other than the Licensed Compounds and Licensed Products, and for the manufacture of any compound that is not a Licensed Compound, *provided* that such molecules and/or compounds are not Notch Inhibitors as their primary mechanism of action. BMS also expressly reserves and retains the right to make, have made and use any Licensed Compound for use as an intermediate or starting material in the manufacture of any compound that is not a Licensed Compound. Nothing in this Agreement shall prevent BMS and its Affiliates from using for any purpose any BMS Know-How that is in the public domain as of the Effective Date (or enters the public domain thereafter) and is not covered by a Valid Claim of a BMS Patent Right licensed to Company hereunder.

ARTICLE 3

TRANSFER OF KNOW-HOW, TECHNICAL ASSISTANCE

3.1 Documentation.

3.1.1 During the [*******] period following Company's request (the "Know-How Transfer Period"), which request shall be made by Company within [*******] following the Effective Date (*provided* that if Company does not provide such request within the [*******] period following the Effective Date, the Know-How Transfer Period will automatically commence on the date that is [*******] after the Effective Date), BMS shall provide Company with electronic (or tangible embodiments, if electronic is not available) of the Know-How listed on Appendix 6, including copies of originals of laboratory notebooks or pages thereof and, where required by Company to fulfill its duties under applicable Law, copies of manufacturing run records required to be maintained by BMS under applicable Law; *provided* that, with respect to BMS Know-How contained in laboratory notebooks, BMS shall be required to provide Company with copies of those laboratory notebook pages (electronic copies, if they exist) [*******] that contain BMS Know-How relating to Licensed Compounds. Such documentation is Confidential Information of BMS shall not be used by Company for any purpose other than for the discovery, research, Development or Commercialization (including any import, manufacture, use, offer for sale, or sale) of Licensed Compounds and/or Licensed Products in accordance with this Agreement. Company shall assume full responsibility and liability to BMS for any unauthorized

use or disclosure of such Confidential Information. BMS shall be responsible for the cost of providing one (1) set of copies (electronic, where they exist) only. BMS shall have no obligation to reformat or otherwise alter or modify any materials, or to create materials in electronic form, in order to provide them to Company, *provided* that, such material will be delivered to Company unencrypted (or if encrypted, provided with a means for unencrypting). Any and all materials and other BMS Know-How delivered to Company pursuant to this Section 3.1 are and shall remain the sole property of BMS.

Without limiting the foregoing, if, within [***] after the Effective Date Company reasonably determines that there is additional, specific BMS Know-How Controlled by BMS and its Affiliates that existed as of the Effective Date that is reasonably necessary for the continued Development or manufacture (but only those manufacturing and formulation processes, techniques and trade secrets used by BMS for making such Licensed Compounds as of the Effective Date) of any Licensed Compound or Licensed Product that has not been provided during the Know-How Transfer Period, then Company may request within such [***] period that BMS transfer to Company such additional BMS Know-How and BMS will use Commercially Reasonable Efforts to locate and provide same, *provided* that BMS shall not be required to conduct an unreasonable search for any such additional BMS Know-How.

3.1.2 Notwithstanding Section 3.1.1 or 3.2, nothing herein shall require BMS to transfer, disclose or provide to Company (i) any reagents, assays or other tangible biological or chemical materials that are not listed on Appendix 4, and (ii) any general information or know-how that should reasonably be known to a pharmaceutical company engaged in the research, development, manufacture or commercialization of small molecules for the treatment of cancer.

3.1.3 Any data or information included in the INDs to be transferred under Section 3.3 does not need to be separately transferred pursuant to Section 3.1.1 or Section 3.2.

3.2 Technical Assistance. During the [***] period following the Effective Date (the "TA Period"), BMS shall reasonably cooperate with Company to assist Company with understanding and using the BMS Know-How provided to Company under Section 3.1. Such cooperation shall include, without limitation, providing Company with reasonable access by teleconference or in-person at BMS' facilities (subject to BMS' customary rules and restrictions with respect to site visits by non-BMS personnel) to BMS personnel who are appropriately qualified and experienced for such purpose, and to the extent reasonably available, to BMS personnel who were directly involved with the research or development of Licensed Compounds or Licensed Products prior to the Effective Date. In no event shall BMS be obligated to provide Company with more than (x) [***] hours of technical assistance and consultation in connection with the BMS Know-How transferred under Section 3.1 to the extent the Know-How does not relate to manufacturing Know-How, and (y) [***] hours technical assistance and consultation in connection with the BMS Know-How transferred under Section 3.1 to the extent it relates to manufacturing Know-How; *provided* that upon Company's request, BMS shall provide additional technical assistance beyond the foregoing, at a mutually agreed commercially reasonable hourly rate, up to an additional [***] hours. Further: (i) such access shall be requested and coordinated through a single contact person to be designated by BMS, (ii) BMS makes no warranty, express or implied, that Company shall be able to successfully implement and use the BMS Know-How, and (iii) BMS shall not be in default hereunder for any inadvertent failure to disclose all pertinent

information related to the BMS Know-How, *provided* that such information shall be supplied to Company promptly upon discovery of such failure to disclose or upon request of Company identifying with reasonable specificity the nature of the information to be disclosed. Company shall be responsible for ensuring that its personnel who receive such assistance are appropriately qualified and experienced for such purpose.

3.3 INDs. BMS will use its Commercially Reasonable Efforts to assign and transfer within [*******] days after Company's request (which request by Company shall come within [*******] days after the Effective Date) all of its rights, title and interests in and to any INDs for the Licensed Compounds. Company will cooperate in connection therewith and shall perform all duties under such INDs from and after such assignment. Subject to the foregoing, the Parties will reasonably cooperate to ensure an orderly transition of duties under such INDs and to fulfill applicable filing obligations with regulatory authorities.

3.4 Safety Database. BMS shall transfer to Company the safety database for the Licensed Compounds, in a mutually agreeable format, as soon as practicable subsequent to the Effective Date as agreed to by the Parties, and Company shall thereafter perform all responsibilities thereafter with respect to reporting of adverse events and pharmacovigilance relating to the Licensed Compounds.

3.5 Pharmacovigilance Agreement. Within [*******] after the Effective Date, BMS and the Company (under the guidance of their respective Pharmacovigilance Departments, or equivalent thereof) shall define and finalize the responsibilities the Parties shall employ to protect patients and promote their well-being in connection with the use of the Licensed Compound(s) until such time that all pharmacovigilance responsibilities have transferred from BMS to Company. These responsibilities shall include mutually acceptable guidelines and procedures for the receipt, investigation, recordation, communication, and exchange (as between the Parties) of adverse event reports, pregnancy reports, and any other information concerning the safety of any Licensed Compound(s). Such guidelines and procedures shall be in accordance with, and enable the Parties and their Affiliates to fulfill, local and international regulatory reporting obligations to government authorities. Furthermore, such agreed procedures shall be consistent with relevant International Council for Harmonization (ICH) guidelines, except where said guidelines may conflict with existing local regulatory safety reporting requirements, in which case local reporting requirements shall prevail. Until such guidelines and procedures are set forth in a written agreement between the Parties (hereafter referred to as the "Pharmacovigilance Agreement"), the Party responsible for pharmacovigilance prior to execution of this Agreement shall have sole Pharmacovigilance responsibility for the Licensed Compound(s) subject to all applicable regulations and guidelines. In the event that this Agreement is terminated, the Parties agree to implement the necessary procedures and practices to ensure that any outstanding pharmacovigilance reporting obligations are fulfilled.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

ARTICLE 4

TRANSFER OF MATERIALS

4.1 Materials. Within [*******] days after requested by Company, but no later than [*******] days after the Effective Date, BMS shall transfer to Company those Licensed Compounds identified in Appendix 4, ex-works (EXW) at the applicable BMS facility(ies), in the quantities set forth in Appendix 4 (any such materials that are actually transferred, the "Transferred Materials"). Title and risk of loss shall be transferred to and borne by Company upon delivery of the Transferred Materials by BMS to a common carrier for shipment to Company, and Company shall be responsible for any indirect taxes levied upon the transfer, including customs duties and import VAT if applicable. Other than the Transferred Materials, or as otherwise included within the scope of BMS Know-How (but subject to Section 3.1.2), BMS shall have no other obligation to provide Company with any compounds or other materials, such as assays or biomaterials, under this Agreement. Any such Transferred Materials identified as cGMP materials in Appendix 4 (the "cGMP Materials") shall be accompanied by a certificate of analysis, certificate of manufacturing, batch records and other such documentation, information materials as may be required under Applicable Law to enable use of such cGMP Material in human Clinical Trials, including written certification, and BMS hereby represents and warrants, that such cGMP Materials were both (a) manufactured, and (b) stored and handled at all times following such manufacture, in accordance with cGMP. **Except for the express representations and warranties made above in this Section 4.1, BMS makes no other representations or warranties, express or implied, as to the Transferred Materials, including any warranty as to merchantability or fitness for a particular use or purpose.** Any requalification required for Transferred Materials that are not cGMP Materials will be [*******]. Company agrees that: (a) Company shall be fully responsible for its and its Affiliates', Sublicensees' and contractors' use, storage, handling and disposition of the Transferred Materials, (b) under no circumstances shall BMS be liable or responsible for Company's or its Affiliates', Sublicensees' and contractors' use, storage, handling or disposition of the Transferred Materials, and (c) Company assumes sole responsibility for any claims, liabilities, damages and losses that might arise as a result of Company's and its Affiliates', Sublicensees' and contractors' use, storage, handling or disposition of any Transferred Material. Company shall indemnify, defend and hold harmless BMS and its Affiliates, and their respective officers, directors, employees, agents, licensors, and their respective successors, heirs and assigns and representatives, from and against any and all damages, liabilities, losses, costs and expenses (including reasonable legal expenses, costs of litigation and reasonable attorney's fees) arising in connection with any claims, suits, proceedings, whether for money damages or equitable relief, of any kind, arising out of or relating to Company's, or any of its Affiliates', Sublicensees' or contractors' use, storage, handling or disposition of any Transferred Material. Transferred Materials may only be provided by Company to Affiliates of Company, Sublicensees and contractors of Company.

ARTICLE 5

DEVELOPMENT

5.1 Development. Company shall itself or through its Affiliates or Sublicensees use Commercially Reasonable Efforts to Develop at least one Licensed Product, including by (i) setting forth in the Development Plan a program of Development activities and reasonable estimated timelines therefor for each phase of pre-clinical and clinical Development for Licensed Compounds and Licensed Products, and (ii) assigning appropriately qualified and experienced personnel to perform and monitor the progress of, or overseeing Third Parties who perform, such Development activities on an on-going basis. The initial Development Plan as of the Effective

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

Date is attached hereto as Appendix 2, and may be amended by the Company from time to time at the Company's sole discretion. During the Term, Company shall (a) provide BMS no later than March 1 of each Calendar Year with a copy of the revised Development Plan for each Licensed Compound and Licensed Product for such Calendar Year and [*******], and (b) within a reasonable period of time notify BMS if, as a result of interactions with Regulatory Authorities in relation to the Licensed Product, Company reasonably determines that the estimated timelines for Development and Commercialization for Licensed Products set forth in the Development Plan are likely to be delayed so as to have a material adverse effect on such Development and Commercialization of Licensed Products, and shall within a reasonable period of time thereafter update the Development Plan to reflect such revised estimated timelines. Company shall within [*******] notify BMS of any change in any study that is likely to have a material adverse effect on the Development and Commercialization of Licensed Compounds or Licensed Products included in the Development Plan last provided to BMS of which it becomes aware and the reasons therefor.

5.2 Development Reports. Company shall provide BMS with written Development reports [*******] each Calendar Year during the term of Development activities summarizing (but without disclosing specific data or results) such activities in reasonably sufficient detail to enable BMS to determine Company's compliance with its diligence obligations in Section 5.1; *provided* that beginning in 2021, Company shall provide BMS with such written Development reports [*******]. Such reports shall include without limitation (a) the research and other Development activities accomplished by Company under the existing Development Plan through the end of the immediately preceding six-month period ending December 31 or June 30, as the case may be, with respect to Licensed Compounds and Licensed Products (*provided* that Development reports beginning in 2021 shall instead include the research and other Development activities accomplished by Company under the existing Development Plan through the end of the immediately preceding Calendar Year with respect to Licensed Compounds and Licensed Products), (b) updates on Company's progress against the existing Development Plan, and (c) any revisions proposed to be made to any Development Plan for the then current Calendar Year; *provided*, *however*, that the first such report shall be due no later than March 1, 2018. If any such Development obligations have been sublicensed to a Sublicensee, Company shall require the Sublicensee to provide to BMS the same information as required of Company hereunder with respect to the progress of the development of Licensed Compounds and Licensed Products by such Sublicensee. If requested by BMS, Company (and, if applicable, Sublicensee) personnel who prepared the report will meet with BMS at a reasonable time and place (which may be by teleconference) and upon reasonable advance written notice to discuss any reasonable questions or comments that BMS might have on the report and Company's development activities.

5.3 Records. Company shall maintain complete and accurate records of all work conducted in furtherance of the research, Development and Commercialization of the Licensed Compounds and/or Licensed Products and all results, data and developments made in furtherance thereof to the extent required under applicable Laws. Such records shall properly reflect all work done and results achieved in sufficient detail and in good scientific manner to the extent required under applicable Laws.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

5.4 Development Responsibilities and Costs. As between the Parties, Company shall have sole responsibility for, and shall bear the cost of conducting, research and Development with respect to the Licensed Compounds and/or Licensed Products. Company shall research and Develop the Licensed Compounds and/or Licensed Products in compliance with all applicable Laws, including all legal and regulatory requirements pertaining to the design and conduct of Clinical Trials. For clarity, BMS shall be responsible for the payment of all payment obligations to any third Parties pursuant to licenses obtained by BMS with respect to any Third Party Know How or Third Party Patent Rights included in the BMS Know-How or BMS Patent Rights, respectively, except with respect to Third Party Compensation, which shall be determined pursuant to 8.4.4(a).

5.5 Regulatory Responsibilities and Costs. As between the Parties, Company shall have sole responsibility for, and shall bear the cost of preparing, all regulatory filings and related submissions with respect to the Licensed Compounds and/or Licensed Products. Except as set forth in Article 13, Company shall own all INDs, Approvals and submissions in connection therewith and all Approvals shall be obtained by and in the name of Company.

5.6 Competitive Compound.

5.6.1 During [***], neither Company nor its Affiliates (or any Sublicensee of Company or any Affiliate of such Sublicensee) shall itself or through any Third Party, or in collaboration with any Third Party, engage, directly or indirectly in the clinical Development or Commercialization of a Competitive Compound. [***].

5.6.2 Notwithstanding Section 5.6.1, if Company or any of its Affiliates, either through its own development efforts or by acquisition, or obtains ownership of or a license to, or is acquired by or otherwise merges with an entity (or an Affiliate of such entity) that owns or has a license to, a Competitive Compound, in all such cases that would result in a violation of Section 5.6.1 (any such event, a "Triggering Event"), then Company shall notify BMS in writing and elect (as applicable) one of the following actions within [***] after such Triggering Event:

(a) divest itself of such Competitive Compound and notify BMS in writing of such divestiture, which divestiture may occur by an outright sale to a Third Party of all of Company's and its Affiliate's rights to such Competitive Compound or by an outlicense arrangement under which Company has no continuing active involvement in the development or commercialization of such Competitive Compound [***]; or

(b) Company shall notify BMS in writing whether Company desires to negotiate terms under which the Competitive Compound would be included as a Product within this Agreement. [***].

ARTICLE 6

COMMERCIALIZATION

6.1 Company Obligations. Company shall use Commercially Reasonable Efforts to (i) obtain Approvals in [***] for at least one Licensed Product, (ii) effect the First Commercial Sale of each Licensed Product for which such Approvals are obtained into each of such Major Market Countries as soon as reasonably practicable after receipt of such Approvals and (iii)

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Commercialize each such Licensed Product in each of such Major Market Countries following such First Commercial Sale therein with the goal of maximizing the Net Sales of such Licensed Product in such Major Market Countries. As between the Parties, Company shall have sole responsibility for, and shall bear the cost of, Commercializing Licensed Products.

6.2 Continued Availability. Following the First Commercial Sale of a Licensed Product in a country in the Territory and until the expiration or termination of this Agreement, Company shall be responsible for manufacturing (or having manufactured) at its sole expense and using Commercially Reasonable Efforts to maintain supplies of such Licensed Product sufficient to satisfy Company's expected Commercialization efforts in such country.

6.3 Reports. Following the First Commercial Sale of a Licensed Product in a country in the Territory, Company shall provide BMS with a written report within [***] days of the filing of the Company Annual Report with the U.S. Securities and Exchange Commission (or if no such report is filed, then within [***] days after the end of a Calendar Year), summarizing significant commercial activities with respect to Licensed Products during the just ended Calendar Year in countries in which there has been a First Commercial Sale of a Licensed Product, broken out separately for each applicable Major Market Country, [***]. If requested by BMS, Company personnel who prepared the report will meet with BMS, which may be by teleconference, to discuss and answer any questions or comments that BMS might have on the report and Company's commercialization activities during the [***] day period following delivery of such written report to BMS.

ARTICLE 7

MANUFACTURE AND SUPPLY

7.1 Manufacture and Supply. As between the Parties, Company shall be solely responsible at its expense for all of its requirements for making or having made all of its requirements of the Licensed Compounds and/or Licensed Products, except for Transferred Materials.

ARTICLE 8

FINANCIAL TERMS

In consideration of the rights granted by BMS to Company pursuant to this Agreement, Company shall make the payments provided for in this Article 8.

8.1 Initial Payment. Company shall:

8.1.1 Within [***] after the Effective Date, pay to BMS a nonrefundable, noncreditable payment of Six Million Dollars ($6,000,000) in cash by wire transfer into an account designated in writing by BMS; and

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

8.1.2 Within [***] after the Effective Date, issue to BMS preferred stock of Company equal to eight percent (8.0%) of Company's capital stock on a fully-diluted basis at the time of issuance, and concurrent with any subsequent issuances of equity by Company, BMS shall be entitled to receive without any additional consideration that number of additional shares of Company preferred stock as is required for BMS to maintain its eight percent (8.0%) equity ownership in Company (on a fully-diluted basis); *provided* that this anti-dilution right shall apply only until the earlier to occur of (i) the date by which Company shall have raised [***] in proceeds from equity financings in the aggregate and (ii) the date by which Company's pre-money valuation is equal to [***] or more in connection with the closing of an equity investment of not less than [***] that includes an investment of not less than [***] by external investors that are not, nor have ever been, Affiliates of Company or of any of the stockholders of Company prior to the closing of such equity financing; *provided further* that with respect to equity financings in excess of such [***] or pre-money valuations in excess of [***], BMS shall have the right (but not the obligation) to participate, in its sole discretion, in any such financings on the same terms and conditions (including price) as the other investors in order to maintain its eight percent (8.0%) ownership interest in Company (on a fully diluted basis). The shares of preferred stock issued by Company to BMS will have the same rights and privileges, and be subject to the same terms and conditions (*e.g.*, voting rights, registration rights, rights of co-sale, etc.), as the preferred stock issued in connection with Company's Series A financing, the term sheet for which is attached hereto as Appendix 7. For clarity, "fully-diluted" shall not include authorized but unissued options.

8.2 Milestone Payments.

8.2.1 Development Milestones. Company shall pay to BMS the following one-time milestone payments set forth in the table below within [***] after the first achievement of the specified milestone event by Company, its Affiliates, and Sublicensees for the first Licensed Product to achieve such milestone event. Company shall provide written notice to BMS within [***] after the first achievement of the specified milestone event by Company, Affiliates, and Sublicensees. Each milestone payment shall not be refundable or returnable in any event, nor shall it be creditable against royalties or other payments:

[***]

For purposes of this Section:

(i) The set of milestone payments in the table above shall be payable by Company to BMS upon the first achievement of each such milestone event for the first Licensed Compound to achieve the milestone event.

(ii) For each additional Licensed Compound that subsequently achieves the same milestone event that the first Licensed Compound achieved, the milestone payment for such additional Licensed Compound shall be (1) fifty percent (50%) of the payments set forth in the above table and (2) subject to credit or deferral as set forth in clause (iii) below.

(iii) If Development is discontinued for a Licensed Compound before the Regulatory Approval(s) is obtained in the U.S., the EU or Japan for that Licensed Compound, the milestone payments achieved for the next most advanced subsequent Licensed Compound in Development, will be waived for any previously paid milestone payments for that discontinued Licensed Compound.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

(iv) [***].

(v) [***].

(vi) [***].

(vii) [***].

(viii) [***].

(ix) [***].

(x) [***].

(xi) [***].

(xii) [***].

8.2.2 Sales-Based Milestones. The following sales based milestone payments shall be payable by Company to BMS when the annual worldwide Net Sales in a calendar year of Licensed Product by Company, its Affiliates and Sublicensees first reach or exceed the specified thresholds:

Annual Worldwide Net Sales	Milestone Payment
$[***]	$ [***]
$[***]	$ [***]
$[***]	$ [***]
$[***]	$ [***]
Total	**$ 50 million**

Such milestone payments shall be payable one-time for a particular Licensed Product within [***] following the end of the calendar year after the Licensed Product first reaches the net sales threshold. Each milestone payment shall not be refundable or returnable in any event, nor shall it be creditable against royalties or other payments.

8.3 Sublicense Revenue Sharing. In addition to the milestones and royalty payments set forth in Sections 8.2 and 8.4, Company shall pay to BMS the following percentage of all Sublicense Revenues Company receives in connection with any Sublicense or any assignment of rights to the BMS Patents, the Licensed Compounds and/or Licensed Products, depending on the stage of Development of the most advanced Licensed Compound or Licensed Product that is subject to the applicable Sublicense or such assignment:

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

	DEVELOPMENT STAGE OF LICENSED COMPOUND OR LICENSED PRODUCT AS OF THE DATE OF THE SUBLICENSE		
	[***]	[***]	[***]
PERCENT OF SUBLICENSE REVENUES PAYABLE TO BMS	**[***]%**	**[***]%**	**[***]%**

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

	DEVELOPMENT STAGE OF LICENSED COMPOUND OR LICENSED PRODUCT AS OF THE DATE OF THE ASSIGNMENT	
	[***]	[***]
PERCENT OF SUBLICENSE REVENUES PAYABLE TO BMS	**[***]%**	**[***]%**

Notwithstanding the foregoing, in the event Sublicense Revenue received by Company from a Sublicensee is for the same milestone event or royalty tier that Company pays BMS under this Agreement, the percent stated in the tables above shall apply only to Sublicense Revenue that is [***] the payment Company pays to BMS for the same milestone event or royalty tier under this Agreement ([***]).

[***]

For clarity, the percent stated in the above tables shall apply to any particular Sublicense Revenue that is not included in the Agreement (e.g., the upfront payment from the Sublicensee or a milestone payment for a milestone event not included in the Agreement).

8.4 Royalty Payments.

8.4.1 Subject to the terms of this Agreement Company shall pay to BMS tiered royalties based on the total annual worldwide Net Sales in the Territory of each Licensed Product (including all indications and formulations for such Licensed Product) during the applicable Royalty Term for such Licensed Product. The royalty payable with respect to each particular Licensed Product shall be calculated by multiplying the applicable royalty rate below by the portion of total annual worldwide Net Sales in the applicable tier in a Calendar Year of the applicable Licensed Product by Company, its Affiliates, and Sublicensees in the Territory, as follows.

Portion of total annual worldwide Net Sales in a Calendar Year for such Licensed Product that falls within the following tiers:	Royalty Rate
[***]	[***]%
[***]	[***]%
[***]	[***]%

[***]

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

8.4.2 Royalty Term. Royalties shall be payable on a Licensed Product-by-Licensed Product and country-by-country basis on Net Sales of Licensed Products from the First Commercial Sale of a particular Licensed Product in a country until the later of (i) ten (10) years after the First Commercial Sale of such Licensed Product in such country, (ii) the expiration of the last to expire Valid Claim in the BMS Patent Rights that would be infringed by the manufacture, use, sale, importation or offer for sale in such country of a given Licensed Product (including by reasons of extensions thereof under applicable Laws, including patent term extensions, pediatric exclusivity or supplemental protection certificates or their equivalents in any country), or (iii) the expiration of any regulatory or marketing exclusivity for such Licensed Product in such country, including but not limited to any data exclusivity (the "Royalty Term"); *provided that*, if (ii) does not apply or no longer applies, the royalty payable by Company to BMS for the remainder (if any) of the Royalty Term with respect to such Licensed Product shall be determined by a royalty rate equal to [***] percent ([***]%) of the royalty rate set forth in Section 8.4.1.

8.4.3 Royalty Conditions. The royalties under Section 8.4.1 shall be subject to the following conditions:

(a) only one royalty shall be due with respect to the same unit of Licensed Product;

(b) no royalties shall be due upon the sale or other transfer among any Related Party, but in such cases the royalty shall be due and calculated upon the Related Party's Net Sales of Licensed Product to the first non-Related Party; and

(c) no royalties shall accrue on the disposition of Licensed Product in reasonable quantities by any Related Party as part of an expanded access program or as *bona fide* samples or as donations to non-profit institutions or government agencies for non-commercial purposes or for the performance of clinical trials, *provided*, in each case, that such Related Party does not receive any payment for such Licensed Product exceeding the cost of goods.

8.4.4 Royalty Reduction.

(a) If (i) Company, in its reasonable judgment, determines that it is required to obtain a license from any Third Party in order to avoid infringement of such Third Party's Patent Rights as a result of the practice of the BMS Patent Rights and/or the BMS Know-How in connection with the Development and/or Commercialization (but excluding manufacturing) of any Licensed Product, (ii) such Third Party's Patent Rights [***], and (iii) Company is required to pay to such Third Party a royalty or milestone payments in consideration for the grant or maintenance of such license ("Third Party Compensation"), then the amounts that would otherwise have been payable as royalties to BMS under this Agreement shall be reduced by [***] percent ([***]%) of all Third Party Compensation payable by or on behalf of Company to such Third Party, *provided that*, in no event shall the royalty reductions described in this Section 8.4.4(a) act to reduce the royalties payable by Company to less than [***] percent ([***]%) of the amounts payable by Company for a given [***] pursuant to Section 8.4.1.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

(b) If, during the Royalty Term in a particular country where one or more Generic Products with respect to a Licensed Product are sold in that country, the royalty rates set out in Section 8.4.1 shall be reduced:

(i) by [***], in the event that in any calendar quarter such Generic Product(s), by unit equivalent volume in such country, exceed a [***] share of the market;

(ii) by [***], in the event that in any calendar quarter such Generic Product(s), by unit equivalent volume in such country, exceed a [***] share of the market; and

(iii) by [***], in the event that in any calendar quarter such Generic Product(s), by unit equivalent volume in such country, exceed a [***] share of the market.

(c) Notwithstanding the foregoing, in no event shall the royalty reductions described in this Section 8.4.4 act to reduce the royalties payable by Company to less than [***].

8.4.5 Forecast. The Company shall provide on or before September 30 of each Calendar Year a non-binding good faith forecast of sales and royalties for the entire current and next Calendar Year.

8.4.6 Effect of Patent Challenge. In the event Company (or any of its Affiliates or Sublicensees) challenges or knowingly assists (other than in response to a subpoena or court order), including without limitation by providing information, documents, advice, and/or funding, a challenge to the validity, scope, patentability or enforceability of any of the BMS Patent Rights, and such challenge is unsuccessful either because (i) Company files a suit or initiates another legal proceeding challenging the validity or enforceability of any such BMS Patent Right and then withdraws or terminates the suit or proceeding, (ii) any challenged claim that would be infringed but for the license has been upheld, even in amended form, as determined by a court of competent jurisdiction or other legal tribunal, or (iii) Company, in connection with such challenge, fails to produce reasonably credible evidence demonstrating the invalidity or unenforceability of all applicable patent claims in the BMS Patent Rights in such country; then the royalty rates set forth in Section 8.4.1 above shall be increased by [***] of the percentages set forth above ([***]), retroactively effective to the date that such suit or other legal proceeding was filed or otherwise formally initiated.

8.5 Manner of Payment. All payments to be made by Company under this Agreement shall be made in U.S. Dollars by electric fund transfer of immediately available funds to such bank account as shall be designated by BMS. Late payments shall bear interest at the rate provided in Section 8.10.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

8.6 Sales Reports and Royalty Payments. After the First Commercial Sale of a Licensed Product and during the term of this Agreement, Company shall furnish to BMS a written report, within [***] days after the end of each [***] (or portion thereof, if this Agreement terminates during a [***]), showing the amount of royalty due for such [***] (or portion thereof). Royalty payments for each [***] shall be due at the same time as such written report for the [***]. With each [***] payment, Company shall deliver to BMS a full and accurate accounting to include at least the following information:

8.6.1 the total gross sales for each Licensed Product (by country) by Company and its applicable Related Parties, if any, and the calculation of Net Sales from such gross sales;

8.6.2 the deductions by category of permitted deductions set forth in the Net Sales definition;

8.6.3 the total Net Sales for each Licensed Product (by country) by Company and its applicable Related Parties, if any, and the calculation of Net Sales from such gross sales;

8.6.4 the calculation of royalties payable in Dollars which shall have accrued hereunder in respect of such Net Sales;

8.6.5 withholding taxes, if any, required by applicable Law to be deducted in respect of such royalties; and

8.6.6 the exchange rates used in determining the amount of Dollars payable hereunder.

If no royalty or payment is due for any royalty period hereunder, Company shall so report.

8.7 Sales Record Audit.

8.7.1 Company shall keep, and shall cause each of its applicable Related Parties, if any, to keep, complete, true and accurate books of accounts and records in accordance with GAAP, including gross sales in accordance with GAAP and any deductions thereto in accordance with this Agreement's Net Sales definition in connection with the calculation of Net Sales, sufficient to determine and establish the amounts payable incurred under this Agreement, and compliance with the other terms and conditions of this Agreement.

8.7.2 Such books of accounting of Company and its Affiliates shall be kept at their principal place of business and, with all necessary supporting data and records, shall during all reasonable times for the [***] next following the end of the Calendar Year to which each shall pertain, be open for inspection not more than [***] per Calendar Year at reasonable times by an independent certified public accountant selected by BMS and as to which Company has no reasonable objection, at BMS' expense, for the purpose of verifying royalty statements and payments for compliance with this Agreement for any period within the preceding [***].

8.7.3 Company shall include in its Sublicense Agreements with any Sublicensees, a right for Company to inspect or have such an accountant inspect, not more than [***] during any Calendar Year, the books of accounting and such supporting data and records of such Sublicensees for the purpose of verifying royalty statements and payments for compliance with this Agreement for any period within the preceding [***].

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

8.7.4 Results of any inspection under Section 8.7.2 or 8.7.3 shall be made available to both Company and BMS. The independent, certified public accountant shall disclose to BMS only the amounts that the independent auditor believes to be due and payable hereunder to BMS, details concerning any discrepancy from the amount paid (including the reasons therefor) and the amount due, and shall disclose no other information revealed in such audit.

8.7.5 Such accountant must have agreed in writing to maintain all information learned in confidence, except as necessary to disclose to BMS such compliance or noncompliance by Company, and any applicable Related Parties (who must agree in the Sublicense Agreement that such audit report may be disclosed to BMS). The results of each inspection, if any, shall be binding on both Parties. BMS shall pay for such inspections, except that in the event there is any upward adjustment in aggregate royalties payable for any Calendar Year shown by such inspection of more than [***] of the amount paid, Company shall pay for such inspection. Any underpayments shall be paid by Company within [***] days after notification of the results of such inspection. Any overpayments shall be fully creditable against amounts payable in subsequent payment periods. If no further royalty payments are owed to BMS, BMS shall reimburse Company for the amount of the overpayment within [***] days.

8.8 Currency Exchange. The Company's then current standard exchange rate methodology will be employed for the translation of foreign currency sales into Dollars, *provided* such methodology is used by the Company in the translation of its foreign currency operating results, is consistent with GAAP, and is audited by the Company's independent certified public accountants in connection with the audit of the consolidated financial statements of Company, and is used for the Company's external reporting of foreign currency operating results.

8.9 Taxes.

8.9.1 Each Party will pay any and all taxes levied on account of all payments it receives under this agreement.

8.9.2 If laws or regulations require that taxes be withheld with respect to any royalty payments by Company to BMS under this Agreement, Company will: (a) deduct those taxes from the remittable payment, (b) pay the taxes to the proper taxing authority, and (c) send evidence of the obligation together with proof of tax payment to BMS within [***] days following that tax payment. Each Party agrees to cooperate with the other Party in claiming refunds or exemptions from such deductions or withholdings under any relevant agreement or treaty which is in effect. The Parties shall discuss applicable mechanisms for minimizing such taxes to the extent possible in compliance with applicable Laws. BMS will pay any and all taxes levied on account of all payments it receives under this Agreement; *provided*, that notwithstanding the foregoing, in the event that payments are made by Company other than from the mainland U.S. (e.g., as a result of an assignment under Section 15.4.2), then Company shall, in addition to complying with the foregoing, pay an amount to BMS such that when any taxes that are required to be withheld have been deducted, BMS receives that amount it would have received had the payment been made from the mainland U.S.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

8.9.3 The Parties shall cooperate in accordance with applicable Laws to minimize indirect taxes (such as value added tax, sales tax, consumption tax and other similar taxes) in connection with this Agreement.

8.10 Interest Due. Without limiting any other rights or remedies available to BMS, Company shall pay BMS interest on any payments that are not paid on or before the date such payments are due under this Agreement at a rate of [*******] per month or the maximum applicable legal rate, if less, calculated on the total number of days payment is delinquent.

8.11 Company Financial Report. Until Designated Approval of the first Licensed Product, Company shall send BMS (to the contact as specified in writing by BMS) an updated then-current financial statement for Company for each Calendar Year within [*******] days following the end of such Calendar Year. The first such report shall be due with respect to partial Calendar Year ended December 31, 2017, *provided* such first report shall be unaudited.

ARTICLE 9

REPRESENTATIONS AND WARRANTIES; DISCLAIMER; LIMITATION OF LIABILITY

9.1 Mutual Representations and Warranties. Each Party represents and warrants to the other Party that, as of the Effective Date: (i) it is duly organized, validly existing and in good standing under the Laws of the jurisdiction of its incorporation and has all requisite corporate power and authority to enter into this Agreement and to perform its obligations under this Agreement, (ii) execution of this Agreement and the performance by such Party of its obligations hereunder have been duly authorized, (iii) this Agreement has been duly executed and delivered on behalf of such Party, and is legally binding and enforceable on each Party in accordance with its terms, (iv) the performance of this Agreement by it does not create a breach or default under any other agreement to which it is a Party, (v) the execution, delivery and performance of this Agreement by such Party does not conflict with any agreement, instrument or understanding, oral or written, to which it is a party or by which it is bound, nor violate any Law or regulation of any court, governmental body or administrative or other agency having jurisdiction over such Party, (vi) no government authorization, consent, approval, license, exemption of or filing or registration with any court or governmental department, commission, board, bureau, agency or instrumentality, domestic or foreign, under any Laws currently in effect, is or will be necessary for, or in connection with, the transaction contemplated by this Agreement or any other agreement or instrument executed in connection herewith, or for the performance by it of its obligations under this Agreement and such other agreements, and (vii) neither such Party, nor any of its employees, officers, subcontractors, or consultants who have rendered services relating to the Licensed Compounds: (a) has ever been debarred or is subject to debarment or convicted of a crime for which an entity or person could be debarred by the FDA under 21 U.S.C. Section 335a or (b) has ever been under indictment for a crime for which a person or entity could be so debarred.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

9.2 Representations, Warranties, and Covenants of BMS. BMS represents and warrants to Company that, as of the Effective Date:

9.2.1 BMS owns and Controls the BMS Patent Rights and BMS Know-How and has the full power and authority to grant the licenses under this Agreement, and no rights granted to Company pursuant to this Agreement are in violation of any existing agreement between BMS or any of its Affiliates and any Third Party;

9.2.2 there is no pending litigation or proceeding, or litigation or proceeding that has been threatened in writing, which alleges, or any written communication alleging, that BMS' activities with respect to the research, Development or manufacture of the Licensed Compounds prior to the Effective Date have infringed or misappropriated, or would infringe or misappropriate, any of the intellectual property rights of any Third Party;

9.2.3 no Third Party has challenged in writing, and there is no pending litigation or proceeding, or litigation or proceeding that has been threatened in writing challenging, the ownership, scope, duration, validity, enforceability, priority or right to use any BMS Patent Rights (including, by way of example, through the institution of or written threat of institution of interference, *inter partes* review, reexamination, protest, opposition, nullity or similar invalidity proceeding before the United States Patent and Trademark Office or any foreign patent authority or court);

9.2.4 To BMS' Knowledge, the BMS Patent Rights are valid and enforceable;

9.2.5 all fees required to be paid by BMS in any jurisdiction in order to maintain the Patent Rights licensed to Company hereunder have, to BMS' Knowledge, been timely paid as of the Effective Date and, to BMS' Knowledge, the claims included in any issued patents included in such Patent Rights are in full force and effect as of the Effective Date;

9.2.6 BMS has not previously assigned, transferred, conveyed, or granted any license or other rights to its right, title and interest in the BMS Patent Rights or the BMS Know-How, in any way that would conflict with or limit the scope of any of the rights or licenses granted to Company hereunder;

9.2.7 BMS' right, title and interest to all the BMS Patent Rights are free of any lien or security interest;

9.2.8 none of the BMS Patent Rights listed in Appendix 1 is licensed from a Third Party and BMS is not subject to any contractual payment or other obligations to any Third Party as a result of the execution of this Agreement or the Development, manufacture or Commercialization of the Licensed Compounds and/or Licensed Products in the Field in the Territory;

9.2.9 none of the BMS Patent Rights, nor any of the Licensed Compounds or Licensed Products, were Developed using any U.S. Government or agency funding and are not subject to any obligations or restrictions under 35 USC §200-212 and 37 CFR 401;

9.2.10 except as set forth in Appendix 1, BMS and its Affiliates do not own or control any other Patent Rights that are necessary or, to BMS's Knowledge as of the Effective Date, reasonably useful to carry out the Development of Licensed Compounds and/or Licensed Products as contemplated by the Development Plan attached as Appendix 2 hereto;

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

9.2.11 subject to Section 3.1.2, to BMS' Knowledge, the documents, data and information that are included in the BMS Know-How transferred to Company pursuant to Section 3.1 constitute all of the Know-How owned or Controlled by BMS that is reasonably necessary or useful for the Development or manufacture of the Licensed Compounds in accordance with the terms of this Agreement;

9.2.12 to BMS' Knowledge, the BMS Patent Rights and BMS Know-How and the exercise of Company's rights in connection therewith as contemplated by this Agreement, and the Licensed Compounds and Licensed Products as contemplated by this Agreement, including the use of the Licensed Compounds and Licensed Products by BMS prior to the Effective Date, did not and do not infringe, violate or misappropriate the intellectual property rights of any Third Party; and

9.2.13 to BMS' Knowledge, BMS is not conducting any clinical Development of a Competitive Compound and is not actively exchanging written term sheets or draft agreements with a Third Party to in-license a Competitive Compound.

9.3 Representations and Warranties of Company. Company represents, warrants and covenants that

9.3.1 it shall not engage in any activities that use the BMS Patent Rights and/or BMS Know-How in a manner that is outside the scope of the license rights granted to it hereunder;

9.3.2 all of its activities related to its use of the BMS Patent Rights and BMS Know-How, and the research, Development and Commercialization of the Licensed Compounds and/or Licensed Products, pursuant to this Agreement shall comply with all applicable Law;

9.3.3 prior to filing the first drug application (i.e., an NDA or its foreign equivalent) for a Licensed Product, Company to its knowledge shall have all licenses that are necessary in order for the manufacture, use or sale of such Licensed Product not to infringe the intellectual property of any Third Party known to Company as of such date, but excluding licenses applicable to any Third Party issued patents for which Company shall have obtained a well-reasoned, written opinion of an outside patent attorney that Company's activities under the scope of this Agreement are not reasonably likely to infringe any Valid Claim of such Third Party issued patent; and

9.3.4 it has sufficient resources, including without limitation, qualified personnel and contractors with the requisite skill and expertise, to Develop and Commercialize the Licensed Compounds and Licensed Products in accordance with the terms of this Agreement.

9.4 DISCLAIMER. EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER PARTY MAKES ANY REPRESENTATIONS OR WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING ANY EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

PURPOSE WITH RESPECT TO ANY LICENSED COMPOUNDS, LICENSED PRODUCTS, TRANSFERRED MATERIALS, THE BMS PATENT RIGHTS OR BMS KNOW-HOW OR ANY RIGHT OR LICENSE GRANTED BY BMS HEREUNDER, AND NOTHING IN THIS AGREEMENT SHALL BE CONSTRUED AS A REPRESENTATION OR WARRANTY BY BMS THAT ANY PATENT OR OTHER PROPRIETARY RIGHTS INCLUDED IN THE BMS PATENT RIGHTS ARE VALID OR ENFORCEABLE OR THAT USE OF THE BMS PATENT RIGHTS, BMS KNOW-HOW AND TRANSFERRED MATERIALS CONTEMPLATED HEREUNDER DOES NOT INFRINGE ANY PATENT RIGHTS OR OTHER INTELLECTUAL PROPERTY RIGHTS OF ANY THIRD PARTY.

9.5 Limitation of Liability. NOTWITHSTANDING ANYTHING IN THIS AGREEMENT OR OTHERWISE, NEITHER PARTY SHALL BE LIABLE TO THE OTHER WITH RESPECT TO ANY SUBJECT MATTER OF THIS AGREEMENT, WHETHER UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY, FOR ANY INCIDENTAL, INDIRECT, SPECIAL, EXEMPLARY, PUNITIVE, MULTIPLE, OR CONSEQUENTIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, LOST PROFITS, LOSS OF USE, DAMAGE TO GOODWILL, OR LOSS OF BUSINESS); *PROVIDED, HOWEVER*, THAT THE FOREGOING SHALL NOT APPLY TO ANY BREACH BY A PARTY OF ARTICLE 11 HEREOF, TO A BREACH BY COMPANY OF SECTION 5.6, THE WILLFUL BREACH, WILLFUL MISCONDUCT, OR GROSS NEGLIGENCE BY A PARTY, OR FOR AMOUNTS SOUGHT BY THIRD PARTIES IN CLAIMS THAT ARE SUBJECT TO THE PARTIES' RESPECTIVE INDEMNITY OBLIGATIONS UNDER ARTICLE 12. EXCEPT FOR AMOUNTS SOUGHT BY THIRD PARTIES IN CLAIMS THAT ARE SUBJECT TO BMS' INDEMNITY OBLIGATIONS UNDER ARTICLE 12, BMS SHALL NOT BE LIABLE FOR ANY DAMAGES OF ANY KIND (INCLUDING DIRECT DAMAGES) IN AN AMOUNT GREATER THAN [***]. FOR THE AVOIDANCE OF DOUBT, THE FOREGOING LIMITATION SHALL NOT APPLY TO OR LIMIT ANY INFRINGEMENT CLAIM BROUGHT BY A PARTY UNDER THE PATENT LAWS OF ANY COUNTRY.

ARTICLE 10

PATENT MAINTENANCE; INFRINGEMENT; PATENT EXTENSIONS

10.1 Inventions. Inventorship of inventions conceived or reduced to practice in the course of research and other Development activities under this Agreement shall be determined by application of United States patent Laws pertaining to inventorship. If such inventions are jointly invented in the course of such Development activities by one or more employees or consultants or contractors of both Parties, such inventions shall be jointly owned ("Joint Invention"), and if one or more claims included in an issued patent or pending patent application which is filed in a patent office in the Territory claim such Joint Invention, such patent or patent application shall be jointly owned ("Joint Patent Rights") *provided* that, BMS' interest in any Joint Patent Rights shall be deemed to be and included within the BMS Patent Rights. If such an invention is solely invented by an employee or consultant of a Party, such invention shall be solely owned by such Party, and any patent filed claiming such solely owned invention shall also be solely owned by such Party,

provided that, any such patent filed claiming an invention solely invented by an employee or consultant of BMS shall be deemed to be and included within the BMS Patent Rights. This Agreement shall be understood to be a joint research agreement in accordance with 35 U.S.C. § 103(c), as amended, to develop the Licensed Compounds and/or Licensed Products. Each Party shall enter into binding agreements obligating all employees and consultants performing activities under or contemplated by this Agreement, including activities related to the BMS Patent Rights, Licensed Compounds or Licensed Products, to assign his/her interest in any invention conceived or reduced to practice in the course of such activities to the Party for which such employee or consultant is providing its services. With respect to contractors, Company shall use good faith and reasonable efforts to secure an agreement from such contractor to assign or license (with the right to sublicense) to Company inventions (and patent rights covering such inventions) made by such contractor in performing such services for Company.

10.2 Filing, Prosecution and Maintenance of BMS Patent Rights. Company will have lead responsibility, using outside patent counsel selected by Company (such determination and outside patent selection to be subject to BMS' approval, such approval not to be unreasonably withheld, delayed or conditioned), for the preparation, prosecution (including any interferences, reissue proceedings and reexaminations) and maintenance of the BMS Patent Rights (including the Joint Patent Rights). Company shall be responsible for the costs incurred with respect to the filing, prosecution and maintenance of the BMS Patent Rights. Company shall provide BMS with [*******] updates of the filing, prosecution and maintenance status for each of the BMS Patent Rights, and shall within a reasonable period of time, but at least [*******] days prior to the deadline to respond (and earlier if practicable) provide copies of any material and/or substantive official correspondence to or from patent offices. The Parties shall reasonably consult with and cooperate with respect to the preparation, prosecution, defense and maintenance of the BMS Patent Rights, including by providing assistance as described in Section 3.2, and will confer regarding where to prosecute the BMS Patent Rights. Company shall not take any action during prosecution and maintenance of the BMS Patent Rights that would materially adversely affect them (including reduction in claims scope), without BMS' prior express written consent (which consent shall be considered to be given if Company notifies BMS of proposed claim amendments or cancellations and BMS fails to object within [*******] days of such notification). BMS shall not take any action with respect to any BMS Patent Rights while Company is responsible for the prosecution and maintenance of such BMS Patent Rights, that would adversely affect such BMS Patent Rights (including express abandonment thereof), without Company's prior express written consent. Company may file a notice with governmental patent offices of the exclusive license to the BMS Patent Rights granted to Company hereunder. Post-grant proceedings involving the BMS Patent Rights, including oppositions, cancellations, *inter partes* review, and the like, shall be conducted by Company at the expense of Company, and Company shall within a reasonable period of time notify BMS of the initiation of such proceeding (or vice versa) and BMS shall reasonably cooperate with Company in any such proceeding, and Company shall give BMS the reasonable opportunity to participate, [*******], and BMS shall also participate and appear as necessary under the applicable rules governing the proceeding. Any settlement or compromise of such post-grant proceeding shall be subject to the approval of BMS, which approval shall not be unreasonably withheld, delayed or conditioned.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

10.3 Patent Abandonment.

10.3.1 The Parties will confer and must mutually agree before any of the BMS Patent Rights may be abandoned in any Major Market Country; *provided* that BMS shall not unreasonably withhold, delay or condition its consent to a request by Company to abandon a BMS Patent Right if such abandonment will not adversely affect the amount or duration of any royalty payable to BMS hereunder. Company shall provide BMS with notice of the allowance and expected issuance date of any patent within the BMS Patent Rights, or any of the deadline for filing a new patent application, and BMS shall provide Company with prompt notice as to whether BMS desires Company to file such new patent application.

10.3.2 Subject to Section 10.3.1, in the event that Company decides either (a) not to continue the prosecution or maintenance of a patent application or patent within the BMS Patent Rights in any country, or (b) not to file any new patent application requested to be filed by BMS, Company shall provide BMS with express written notice of this decision at least [***] days prior to any pending lapse or abandonment thereof, or if a decision not to continue prosecution or maintenance is responsive to an official communication from governmental agency that is received by Company less than [***] days prior to a deadline for taking action in response thereto, then the deadline for giving such notice to BMS shall be [***]% of the time remaining for response after such communication is received by Company. In such event, *provided* that the Parties have not expressly agreed to abandon a patent or not file a patent application under Section 10.3.1, then Company shall provide BMS with an opportunity to assume responsibility for all external costs reasonably associated with the filing and/or further prosecution and maintenance of such patent application and any patent issuing thereon (such filing to occur prior to the issuance of the patent to which the application claims priority or expiration of the applicable filing deadline, as set forth above). In the event that BMS assumes such responsibility for such filing, prosecution and maintenance costs, Company shall transfer the responsibility for such filing, prosecution and maintenance of such patent applications and patents to BMS and, except with respect to any Joint Patent Rights in which Company will retain its joint ownership interest as set forth in Section 10.1, Company shall no longer have any right or license in and to such patent application and patents issuing therefrom under this Agreement. In such case, Company shall provide BMS with an update of the filing, prosecution and maintenance status for each of such patent applications and patents, including copies of any material official correspondence to or from patent offices. Company shall reasonably consult with and cooperate with BMS with respect to the preparation, prosecution and maintenance of such patent applications and patents. Company shall not take any action during prosecution and maintenance of the BMS Patent Rights that would materially adversely affect them, without BMS' prior express written consent, such consent not to be unreasonably withheld, delayed or conditioned if such action will not adversely affect the amount or duration of any royalty payable to BMS, and which consent shall be considered to be given if Company notifies BMS of proposed claim amendments or cancellations and BMS fails to object within [***] days of such notification.

10.4 Enforcement of BMS Patent Rights against Infringers.

10.4.1 Enforcement by Company. In the event that BMS or Company becomes aware of a suspected infringement of any BMS Patent Right in the Field, including actual or alleged infringement under 35 USC §271(e)(2) that is or would be infringing activity involving the using, making, importing, offering for sale or selling of articles that the Party reasonably

believes infringes any of the Patent Rights conferred under this Agreement, such Party shall within a reasonable period of time notify the other Party , including all information available to such Party with respect to such alleged infringement, and following such notification, the Parties shall confer. Company shall have the first right, but shall not be obligated, to bring an infringement action for suspected infringement in the Field at its own expense, in its own name and entirely under its own direction and control, subject to the following: (a) BMS shall reasonably assist Company (at Company's expense) in any action or proceeding being prosecuted for suspected infringement in the Field if so requested, including by being named or joined as a plaintiff to such actions or proceedings if requested by Company or required by Law, (b) BMS shall have the right to participate and be represented in any such suit by its own counsel [***] *provided* that Company shall continue to direct and control such actions or proceedings, (c) no settlement of any such action or proceeding which restricts the scope, or adversely affects the enforceability, of a BMS Patent Right in the Field may be entered into by Company without the prior written consent of BMS, which consent shall not be unreasonably withheld, delayed or conditioned, and further, no settlement of any such action or proceeding which pertains to the infringement of the BMS Patent Rights by virtue of the Development or Commercialization of a Licensed Compound in the Field by a Third Party that is not a Sublicensee may be entered into by Company without the prior written consent of BMS, which consent shall not be unreasonably withheld, delayed or conditioned.

10.4.2 Timing; Enforcement by BMS. Company will have a period of [***] days after its receipt or delivery of notice and evidence pursuant to Section 10.4.1 or receipt of written notice from a Third Party that reasonably evidences such infringement of the BMS Patent Rights, to elect to so enforce such BMS Patent Rights in the applicable jurisdiction (or to settle or otherwise secure the abatement of such infringement in accordance with Section 10.4.1), *provided however*, that such period will be (i) more than [***] days to the extent applicable Law prevents earlier enforcement of such BMS Patent Right (such as the enforcement process set forth in or under the Hatch-Waxman Act), and *provided further* that if such period is extended because applicable Law prevents earlier enforcement, Company shall have until the date that is [***] days following the date upon which applicable Law first permits such proceeding, and (ii) less than [***] days to the extent that a delay in bringing such proceeding against such alleged Third Party infringer would limit or compromise the remedies (including monetary relief, and stay of regulatory approval) available against such alleged Third Party infringer. In the event Company does not so elect (or settle or otherwise secure the abatement of such infringement) before the first to occur of (A) the expiration of the applicable period of time set forth in the preceding subsections (i) and (ii), or (B) [***] days before the expiration of any time period under applicable Law, that would, if a proceeding was not filed within such time period, limit or compromise the remedies available from such proceeding, it will so notify BMS in writing and in the case where BMS then desires to commence a suit or take action to enforce the applicable BMS Patent Right in the applicable jurisdiction, BMS will thereafter have the right to commence such a suit or take such action to enforce the applicable BMS Patent Right, as applicable, [***], *provided* that BMS shall first consult with Company concerning the reasons Company elected not to bring such action and shall consider those reasons in good faith in deciding whether to bring such action. Company shall reasonably assist BMS ([***]) in any action or proceeding being prosecuted if so requested, including by being named or joined as a plaintiff to such actions or proceedings if requested by BMS or required by Law. Company shall have the right to participate and be represented in any such suit by its own counsel [***]. No settlement of any such action or proceeding which restricts the scope, or adversely affects the enforceability, of a BMS Patent Right may be entered into by BMS without the prior written consent of Company, which consent shall not be unreasonably withheld, delayed or conditioned.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

10.4.3 Withdrawal. If either Party brings an action or proceeding under this Section 10.4 and subsequently ceases to pursue or withdraws from such action or proceeding, it shall within a reasonable period of time notify the other Party and the other Party may substitute itself for the withdrawing Party under the terms of this Section 10.4.

10.4.4 Damages. In the event that either Party exercises the rights conferred in this Section 10.4 and recovers any damages or other sums in such action, suit or proceeding or in settlement thereof, such damages or other sums recovered shall [***].

10.5 Infringement of Third Party Rights

10.5.1 The Parties will within a reasonable period of time notify each other of any allegation that any activity under this Agreement infringes or may infringe the intellectual property rights of any Third Party.

10.5.2 In any legal allegation related to the infringement of a Third Party intellectual property right, Company will have the first right to control, at its expense, the defense of such allegation. BMS will have the right, [***] and with its own choice of counsel, to be represented in the defense of the allegation.

10.5.3 The Parties will reasonably cooperate with each other in all respects with all matters related to the defense of any legal allegation under this section.

10.6 Patent Extensions. BMS and Company shall each reasonably cooperate with one another and shall use Commercially Reasonable Efforts in obtaining patent term extension (including any pediatric exclusivity extensions as may be available) or supplemental protection certificates or their equivalents in any country with respect to Patent Rights covering the Licensed Products. If elections with respect to obtaining such patent term extensions are to be made, Company shall have the right, [***], to make the election to seek patent term extension or supplemental protection with respect to the Patent Right for which such extension or supplemental protection should be sought, *provided* that Company shall use Commercially Reasonable Efforts to make such election so as to maximize the period of marketing exclusivity for the Licensed Product. For such purpose, for all Approvals Company shall provide BMS with written notice of any expected Approval at least [***] days prior to the expected date of Approval, as well as notice within [***] Business Days following receipt of each Approval confirming the date of such Approval. Notification of the receipt of an Approval shall be in accordance with Section 15.2 except that the notification shall be sent to:

Bristol-Myers Squibb Company
P.O. Box 4000
Route 206 & Province Line Road
Princeton, New Jersey 08543-4000
Attention: Vice President and Chief Patent Counsel
Telephone: [***]
Facsimile: [***]

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

10.7 Data Exclusivity and Orange Book Listings. With respect to data exclusivity periods (including any available pediatric extensions) or periods under national implementations of Article 10.1 of Directive 2001/EC/83 (and all international equivalents), Company shall use Commercially Reasonable Efforts consistent with its obligations under applicable Law to seek, maintain and enforce all such data exclusivity periods available for the Licensed Products. With respect to patent listing filings in any FDA Orange Book (and equivalents) for issued patents for a Licensed Product, Company shall, consistent with its obligations under applicable Law, list in a timely manner and maintain all applicable BMS Patent Rights. At least [***] days prior to an anticipated deadline for the filing of patent listing information for BMS Patent Rights, Company shall consult with BMS regarding the content of such filing, and shall consider BMS's comments in good faith, *provided* that Company shall have the final decision right with respect to such filing, including the Patent Rights to be listed in any FDA Orange Book or equivalent. BMS shall provide, consistent with its obligations under applicable Law, reasonable cooperation to Company in filing and maintaining such Orange Book (and foreign equivalent) listings.

10.8 Notification of Patent Certification. Company shall notify and provide BMS with copies of any allegations of alleged patent invalidity, unenforceability or non-infringement of a BMS Patent Right pursuant to a Paragraph IV Patent Certification by a Third Party filing an Abbreviated New Drug Application, an application under §505(b)(2) or other similar patent certification by a Third Party, and any foreign equivalent thereof. Such notification and copies shall be provided to BMS within [***] days after Company receives such certification, and shall be sent to the address set forth in Section 10.4. Notwithstanding the foregoing, any such Paragraph IV Patent Certification shall be deemed to be an act of infringement hereunder of the BMS Patent Rights by a Third Party in the Field subject to the enforcement provisions of Section 10.4.

10.9 No Conflict Actions. BMS shall not be required to take any action pursuant to Sections 10.4, 10.7 or 10.8 that BMS reasonably determines in its sole judgment and discretion conflicts with or violates any court or government order or decree that BMS is then subject to or otherwise may create legal liability on the part of BMS.

10.10 Assignment of BMS Patent Rights. Notwithstanding any provision in this Agreement to the contrary, BMS shall have the right to transfer or assign ownership of any BMS Patent Rights as long as any such transfer or assignment is made expressly subject to the rights and licenses granted to Company under this Agreement and the transferee or assignee of the transferred or assigned BMS Patent Rights agrees in writing to prepare, prosecute, enforce and maintain such BMS Patent Rights in accordance with the terms of this ARTICLE 10.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

ARTICLE 11

NONDISCLOSURE OF CONFIDENTIAL INFORMATION

11.1 Nondisclosure. Each Party agrees that, for so long as this Agreement is in effect and for a period of [*******] years thereafter, a Party receiving Confidential Information of the other Party (or that has received any such Confidential Information from the other Party prior to the Effective Date) shall (i) maintain in confidence such Confidential Information using not less than the efforts such Party uses to maintain in confidence its own proprietary industrial information of similar kind and value, (ii) not disclose such Confidential Information to any Third Party without the prior written consent of the other Party, except for disclosures expressly permitted below, and (iii) not use such Confidential Information for any purpose except those permitted by this Agreement (it being understood that this clause (iii) shall not create or imply any rights or licenses not expressly granted under Article 2).

11.2 Exceptions. The obligations in Section 11.1 shall not apply with respect to any portion of the Confidential Information that the receiving Party can show by competent proof:

11.2.1 is publicly disclosed by the disclosing Party, either before or after it is disclosed to the receiving Party hereunder; or

11.2.2 was known to the receiving Party or any of its Affiliates, without any obligation to keep it confidential or any restriction on its use, prior to disclosure by the disclosing Party; or

11.2.3 is subsequently disclosed to the receiving Party or any of its Affiliates by a Third Party lawfully in possession thereof and is disclosed without any obligation to keep it confidential or any restriction on its use; or

11.2.4 is published by a Third Party or otherwise becomes publicly available or enters the public domain, either before or after it is disclosed to the receiving Party; or

11.2.5 has been independently developed by employees or contractors of the receiving Party or any of its Affiliates without the aid, application or use of Confidential Information of the disclosing Party.

11.3 Authorized Disclosure. The receiving Party may disclose Confidential Information belonging to the other Party to the extent (and only to the extent) such disclosure is reasonably necessary in the following instances:

11.3.1 filing or prosecuting patents as set forth in this Agreement;

11.3.2 Company's research, Development or Commercialization (including any import, manufacture, use, offer for sale, or sale) activities, including Company's regulatory filings, with respect to Licensed Compounds and/or Licensed Product, including any Approvals or applications therefor;

11.3.3 prosecuting or defending litigation in relation to the BMS Patent Rights, BMS Know How or this Agreement, including responding to a subpoena in a Third Party litigation, *provided* it has used good faith and reasonable efforts to obtain a protective order for such Confidential Information;

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

11.3.4 subject to Section 11.4, complying with applicable Laws (including the rules and regulations of the Securities and Exchange Commission or any national securities exchange) and with judicial process, if in the reasonable opinion of the receiving Party's counsel, such disclosure is necessary for such compliance; *provided*, *however*, that except where impracticable, the receiving Party shall give the disclosing Party reasonable advance notice of such disclosure requirement (which shall include a copy of any applicable subpoena or order) and shall afford the disclosing Party a reasonable opportunity to oppose, limit or secure confidential treatment for such required disclosure, and in the event of any such required disclosure, the receiving Party shall disclose only that portion of the Confidential Information of the disclosing Party that the receiving Party is legally required to disclose;

11.3.5 disclosure, in connection with the performance of this Agreement and solely on a "need to know basis", to Affiliates, existing or potential collaborators (including existing or potential co-marketing and co-promotion contractors), research collaborators, employees, consultants, or agents, each of whom prior to disclosure must be bound by written obligations of confidentiality and non-use no less restrictive than the obligations set forth in this Article 11; *provided*, *however*, that the receiving Party shall remain responsible for any failure by any Person who receives Confidential Information pursuant to this Article 11 to treat such Confidential Information as required under this Article 11; and

11.3.6 made by such Party to existing or potential acquirers or merger candidates; investment bankers; public and private sources of funding; existing or potential investors, venture capital firms or other financial institutions or investors for purposes of obtaining financing, *provided* that such Party has used good faith and reasonable efforts to secure an agreement from any such Third Party to be bound by obligations of confidentiality and restrictions on use of Confidential Information that are no less restrictive than the obligations in this Agreement.

If and whenever any Confidential Information is disclosed in accordance with this Section 11.3, such disclosure shall not cause any such information to cease to be Confidential Information except to the extent that such disclosure results in a public disclosure of such information (otherwise than by breach of this Agreement). Where reasonably possible and subject to Section 11.4, the receiving Party shall notify the disclosing Party of the receiving Party's intent to make such disclosure pursuant to this Section 11.3 sufficiently prior to making such disclosure so as to allow the disclosing Party adequate time to take whatever action it may deem appropriate to protect the confidentiality of the information.

11.4 Terms of this Agreement. The Parties acknowledge that the terms of this Agreement shall be treated as Confidential Information of both Parties. For the avoidance of doubt, this Section 11.4 shall in no way prevent a Party from disclosing the existence of this Agreement or any terms of this Agreement in order to seek legal advice whenever deemed appropriate by such Party or to enforce such Party's rights under this Agreement, whether through arbitral proceedings, court proceedings or otherwise, or to defend itself against allegations or claims relating to this Agreement, or to comply with Applicable Law (except as provided in Section 11.5 below) when advised in a written opinion of outside counsel that terms of the Agreement are required to be disclosed to comply with Applicable Law.

11.5 Securities Filings. Notwithstanding anything to the contrary in this Agreement, in the event either Party proposes to file with the Securities and Exchange Commission or the securities regulators of any state or other jurisdiction a registration statement or any other disclosure document which describes or refers to this Agreement under the Securities Act of 1933,

as amended, the Securities Exchange Act, of 1934, as amended, any other applicable securities Law or the rules of any national securities exchange, the Party shall notify the other Party of such intention and shall use reasonable efforts to provide such other Party with a copy of relevant portions of the proposed filing not less than [*******] business days prior to (but in no event later than [*******] business days prior to) such filing (and any revisions to such portions of the proposed filing a reasonable time prior to the filing thereof), including any exhibits thereto relating to this Agreement, and shall use reasonable efforts to obtain confidential treatment of any information concerning this Agreement that such other Party requests be kept confidential, and shall only disclose Confidential Information which it is advised by counsel is legally required to be disclosed. No such notice shall be required under this Section 11.5 if the substance of the description of or reference to this Agreement contained in the proposed filing has been included in any previous filing made by the either Party hereunder or otherwise approved by the other Party.

11.6 Publication by Company. Company may publish or present data and/or results relating to a Licensed Compound or Licensed Product developed in the Field in scientific journals and/or at scientific conferences, *provided* that Company shall notify BMS at least [*******] days in advance of the intended submission for publication or presentation of any proposed abstract, manuscript or presentation which discloses Confidential Information of BMS or discloses a patentable invention by delivering a copy thereof to BMS. BMS shall have [*******] days from its receipt of any such abstract, manuscript or presentation in which to notify Company in writing of any specific, reasonable objections to the disclosure, based on concern regarding the specific disclosure of Confidential Information of BMS, and Company will delete any BMS Confidential Information, and consider any other such objections in good faith, including whether it is necessary or advisable to delete any other information from such proposed publication. Once any such abstract or manuscript is accepted for publication, Company shall provide BMS with a copy of the final version of the manuscript or abstract.

ARTICLE 12

INDEMNITY

12.1 Company Indemnity. Company shall indemnify, defend and hold harmless BMS and its Affiliates, and their respective officers, directors, employees, agents, licensors, and their respective successors, heirs and assigns and representatives, from and against any and all damages, liabilities, losses, costs and expenses (including reasonable legal expenses, costs of litigation and reasonable attorney's fees) arising in connection with any claims, suits, proceedings, whether for money damages or equitable relief, of any kind brought by any Third Party (collectively "Losses and Claims") and arising out of or relating to (a) the research, Development, Commercialization (including promotion, advertising, offering for sale, sale or other disposition), transfer, importation or exportation, manufacture, labeling, handling or storage, or use of, or exposure to, any Licensed Compound or any Licensed Product by or for Company or any of its Affiliates, Distributors, Sublicensees, agents and contractors, including claims and threatened claims based on product liability, bodily injury, risk of bodily injury, death or property damage, infringement or misappropriation of Third Party patents, copyrights, trademarks or other intellectual property rights (except to the extent such infringement or misappropriation results from a breach of Section 9.2), or the failure to comply with applicable Law related to the matters referred to in this

subsection (a) with respect to any Licensed Compound or any Licensed Product, (b) the prosecution, maintenance, enforcement and defense of the BMS Patents by Company, its Affiliates, Sublicensees, representatives and agents; and/or (c) the gross negligence, recklessness or willful misconduct of Company or its Affiliates or its or their respective directors, officers, employees and agents, in connection with Company's performance of its obligations or exercise of its rights under this Agreement; *except* in any such case for Losses and Claims to the extent reasonably attributable to any material breach by BMS of Article 11, or BMS having committed an act or acts of gross negligence, recklessness or willful misconduct, or to the extent BMS has an indemnification obligation to Company pursuant to Section 12.2.

12.2 BMS Indemnity. BMS shall indemnify, defend and hold harmless Company and its Affiliates, and their respective officers, directors, employees, agents, licensors, and their respective successors, heirs and assigns and representatives, from and against any and all Losses payable to a Third Party based on Claims brought by a Third Party arising out of or relating to (a) a material breach by BMS of Article 11 or the representations, warranties and covenants of BMS set forth in Section 4.1 and/or Article 9, (b) the gross negligence, recklessness or willful misconduct of BMS or its Affiliates or its or their respective directors, officers, employees and agents, in connection with BMS's performance of its obligations or exercise of its rights under this Agreement, (c) personal injury arising out of the conduct by BMS of Clinical Trials for the Licensed Compound prior to the Effective Date, and/or (d) any Development, use, manufacture, or Commercialization of BMS Reversion Products by BMS following the reversion thereof to BMS pursuant to Section 13.4 in the Territory, including claims and threatened claims based on product liability, bodily injury, risk of bodily injury, death or property damage, infringement or misappropriation of Third Party patents, copyrights, trademarks or other intellectual property rights arising therefrom, or the failure to comply with applicable Law related to the matters referred to in this subsection (d) with respect to any BMS Reversion Product; *except* in any such case for Losses and Claims to the extent reasonably attributable to any material breach by Company of Article 11 of this Agreement, failure of Company to comply with Applicable Law with respect to its Development or Commercialization of the Licensed Compounds or Licensed Products, or Company having committed an act or acts of gross negligence, recklessness or willful misconduct, or to the extent Company has an indemnification obligation to BMS pursuant to Section 12.1.

12.3 Indemnification Procedure. A claim to which indemnification applies under Section 12.1 shall be referred to herein as an "Indemnification Claim". If any Person or Persons (collectively, the "Indemnitee") intends to claim indemnification under this Article 12, the Indemnitee shall notify the Party subject to the indemnification obligation (the "Indemnitor") in writing no later than [***] days after becoming aware of any claim that may be an Indemnification Claim (it being understood and agreed, however, that the failure by an Indemnitee to give such notice shall not relieve Indemnitor of its indemnification obligation under this Agreement except and only to the extent that the Indemnitor is actually prejudiced as a result of such failure to give notice). The Indemnitor shall have the right to assume and control the defense of the Indemnification Claim at its own expense with counsel selected by the Indemnitor and reasonably acceptable to the Indemnitee, *provided*, *however*, that an Indemnitee shall have the right to retain its own counsel, with the fees and expenses to be paid by the Indemnitee, if representation of such Indemnitee by the counsel retained by the Indemnitor would be inappropriate due to actual or potential differing interests between such Indemnitee and any other party represented by such

counsel in such proceedings. If the Indemnitor does not assume the defense of the Indemnification Claim as aforesaid, the Indemnitee may defend the Indemnification Claim but shall have no obligation to do so. The Indemnitee shall not settle or compromise the Indemnification Claim without the prior written consent of the Indemnitor, and the Indemnitor shall not settle or compromise the Indemnification Claim in any manner which would have an adverse effect on the Indemnitee's interests (including any rights under this Agreement or the scope or enforceability of the BMS Patents Rights or BMS Know-How), without the prior written consent of the Indemnitee, which consent, in each case, shall not be unreasonably withheld, delayed or conditioned if the settlement or compromise would impose no financial or other obligations or burdens on the Indemnitee. The Indemnitee shall reasonably cooperate with the Indemnitor at the Indemnitor's expense and shall make available to the Indemnitor all pertinent information under the control of the Indemnitee, which information shall be subject to Article 11.

12.4 Insurance. Company shall, beginning with the initiation of the first Clinical Trial for a Licensed Product, maintain at all times thereafter during the term of this Agreement, and until the later of (i) [***] years after termination or expiration of this Agreement or (ii) the date that all statutes of limitation covering claims or suits that may be brought for personal injury based on the sale or use of a Licensed Product have expired in all states in the U.S., insurance relating to the Licensed Product from a recognized, creditworthy insurance company, on a claims-made basis, with endorsements for contractual liability and for clinical trial and product liability, that is comparable in type and amount to the insurance customarily maintained by Company with respect to similar prescription pharmaceutical products that are marketed, distributed and sold in the Territory; *provided* that if Company does not market, distribute and sell any such similar pharmaceutical products, such insurance shall be comparable in type and amount to the insurance customarily maintained by a company within the bio-pharmaceutical industry. Company shall name BMS as an additional insured on all related insurance policies. Within [***] days following the initiation of the first Clinical Trial for a Licensed Product, and within [***] days following any material change or cancellation in coverage, Company shall furnish to BMS a certificate of insurance evidencing such coverage as of such date, and in the case of cancellation, provide a certificate evidencing that Company's replacement coverage meets the requirements in the first sentence of this Section 12.4. The foregoing insurance requirement shall not be construed to create a limit on the Company's liability hereunder.

ARTICLE 13

TERM AND TERMINATION

13.1 Term. This Agreement shall commence as of the Effective Date and, unless sooner terminated in accordance with the terms hereof or by mutual written consent, shall expire on a country-by-country basis and Licensed Product-by-Licensed Product basis, upon the expiration of the Royalty Term with respect to a given Licensed Product in the applicable country.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

13.2 Termination by BMS. BMS shall have the right to terminate this Agreement, at BMS' sole discretion, as follows:

13.2.1 Insolvency. To the extent permitted under applicable Laws, BMS shall have the right to terminate this Agreement in its entirety, at BMS' sole discretion, upon delivery of written notice to Company upon the filing by Company in any court or agency pursuant to any statute or regulation of the United States or any other jurisdiction a petition in bankruptcy or insolvency or for reorganization or similar arrangement for the benefit of creditors or for the appointment of a receiver or trustee of Company or its assets, upon the proposal by Company of a written agreement of composition or extension of its debts, or if Company is served by a Third Party (and not by BMS) with an involuntary petition against it in any insolvency proceeding, upon the ninety-first (91st) day after such service if such involuntary petition has not previously been stayed or dismissed, or upon the making by Company of an assignment for the benefit of its creditors.

13.2.2 Breach. BMS shall have the right to terminate this Agreement in its entirety, at BMS' sole discretion upon delivery of written notice to Company in the event of any material breach by Company of this Agreement (except that this Section 13.2.2 shall not apply to any breach of Sections 5.1 or 6.1, which are covered under Section 13.2.3), *provided* that such breach has not been cured within [***] after written notice is given by BMS to Company; *provided*, *however*, that if such breach relates to the failure to make a payment when due, such breach must be cured within [***] after written notice thereof is given by BMS. Any such termination of this Agreement shall become effective at the end of the applicable cure period, unless Company has cured any such breach or default prior to the expiration of such cure period. The cure period shall be tolled pending resolution of any *bona fide* dispute between the Parties as to whether any such material breach has occurred.

13.2.3 Termination for Failure to Develop or Commercialize. BMS shall have the right to terminate this Agreement in its entirety in the event that Company fails to fulfill its obligations to Develop Licensed Compounds and/or Licensed Products in accordance with Section 5.1, or to Commercialize Licensed Products in accordance with Section 6.1, *provided* that Company has not cured such breach within [***] following written notice by BMS which notice shall be labeled as a "notice of material breach for failure to use Commercially Reasonable Efforts," and in the case of an alleged breach of Section 6.1, identifies the Major Market Country(ies) in which such breach has occurred. Any such termination of this Agreement shall become effective at the end of the applicable cure period, unless Company has cured any such breach or default prior to the expiration of such cure period. The cure period shall be tolled pending resolution of any *bona fide* dispute between the Parties as to whether any such material breach has occurred. If there is a dispute as to whether company has cured within the remaining cure period following such resolution, such dispute [***].

13.2.4 Termination for Patent Challenge.

(a) BMS shall have the right to terminate this Agreement in its entirety in the event Company (or any of its Affiliates) challenges or knowingly supports (other than as may be necessary or reasonably required to assert a cross-claim or a counter-claim, or in response to a subpoena or court or administrative law request or order), including by providing information, documents, and/or funding, a challenge to the validity, scope, enforceability or patentability of any of the BMS Patent Rights. BMS's right to terminate this Agreement under this Section 13.2.4 may be exercised at any time after Company (or any of its Affiliates) may have challenged or knowingly supports (other than in response to a subpoena or court order) a challenge to the validity, scope, enforceability or patentability of any of the BMS Patent Rights. For the avoidance of doubt, an

action by Company or any Affiliate in accordance with Article 10 to amend claims within a pending patent application within the BMS Patent Rights during the course of Company's prosecution and maintenance of such pending patent application or in defense of a Third Party proceeding, or to make a negative determination of patentability of claims of a patent application of BMS or to abandon a patent application of BMS during the course of Company's Prosecution and Maintenance of such pending patent application, shall not, where undertaken in accordance with Article 9 hereof, constitute a challenge under this Section 13.2.4.

(b) If a Sublicensee of Company challenges the validity, scope or enforceability of or otherwise opposes any of the BMS Patent Rights under which such Sublicensee is sublicensed, then Company shall, at BMS' election and upon written notice from BMS, promptly terminate such Sublicense. The Company shall include within each License Agreement with each Sublicensee a right on the part of the Company to terminate such License Agreement in the event such Sublicensee challenges or knowingly supports a Third Party in challenging (other than in response to a subpoena or court order), in a judicial or administrative proceeding, including without limitation by providing information, documents, or funding, the validity, scope or enforceability of any of the BMS Patent Rights after grant of the patent and (ii) the Company shall exercise such right to terminate the License Agreement with a Sublicensee should such Sublicensee challenge or knowingly support a Third Party in challenging (other than in response to a subpoena or court order) in a judicial or administrative proceeding the validity or enforceability of any of the BMS Patent Rights after grant of the patent. If Company fails to exercise such termination right against such Sublicensee or is unable to do so because it did not include such a provision in its Sublicense, BMS may terminate this Agreement.

13.3 Termination by Company. Company shall have the right to terminate this Agreement, at Company's sole discretion, as follows.

13.3.1 Convenience. Company may terminate this Agreement for any reason upon four (4) months prior written notice in the case where Approval has not been obtained for a Licensed Product or upon eight (8) months prior written notice in the case where Approval has been obtained for a Licensed Product, such termination to be effective at the end of such notice period.

13.3.2 Insolvency. To the extent permitted under applicable Laws, Company shall have the right to terminate this Agreement in its entirety, at Company's sole discretion, upon delivery of written notice to BMS upon the filing by BMS in any court or agency pursuant to any statute or regulation of the United States or any other jurisdiction a petition in bankruptcy or insolvency or for reorganization or similar arrangement for the benefit of creditors or for the appointment of a receiver or trustee of BMS or its assets, upon the proposal by BMS of a written agreement of composition or extension of its debts, or if BMS is served by a Third Party (and not by Company) with an involuntary petition against it in any insolvency proceeding, upon the ninety-first (91st) day after such service if such involuntary petition has not previously been stayed or dismissed, or upon the making by BMS of an assignment for the benefit of its creditors

13.3.3 Breach. Company may terminate this Agreement in the event of a material breach by BMS, *provided* that such breach has not been cured within [***] following written notice by Company. Any such termination of this Agreement shall become effective at the end of the applicable cure period, unless BMS has cured any such breach or default prior to the expiration of such cure period.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

13.3.4 Safety. Notwithstanding any other provision herein to the contrary, Company shall have the right to terminate this Agreement upon written notice to BMS on a Licensed Compound-by-Licensed Compound and/or Licensed Product-by-Licensed Product basis in the event that Company reasonably determines, based upon scientific data, that there are safety and public health issues relating to the Licensed Compound and/or Licensed Product that are not expected or are at a level not expected based on available data and/or in the Approval, such that the medical benefit/risk ratio of such Licensed Compound and/or Licensed Product is sufficiently unfavorable as to materially compromise the welfare of patients to Develop or Commercialize or to continue to Develop or Commercialize the Licensed Compound and/or Licensed Product and Company determines in that such safety issue cannot be ethically addressed by a change to the Summary of Medical Product Characteristics of the Approval ("**Safety Reasons**"). Upon such termination for Safety Reasons, Company shall be responsible, at its expense, for the wind-down of any Development of applicable Licensed Product (including any Clinical Trials for the applicable Licensed Product being conducted by or on behalf of Company) and any Commercialization activities for applicable Licensed Product. Such termination shall become effective upon the date that Company notifies BMS in writing that such wind-down is complete.

13.4 Effect of Termination. Upon termination of this Agreement in its entirety by BMS under Section 13.2 or by Company under Section 13.3.1:

13.4.1 All rights and licenses granted to Company in Article 2 shall terminate, all rights of Company under the BMS Patent Rights and BMS Know-How shall revert to BMS, and Company and its Affiliates shall cease all use of the BMS Patent Rights, the BMS Know-How and the Transferred Materials, and shall return to BMS all unused portions of the Transferred Materials, [*******]. Following the effective date of such termination, all Licensed Compounds and/or Licensed Products shall thereafter be deemed "BMS Reversion Products".

13.4.2 With respect to all regulatory filings (including all INDs and NDAs) and Approvals and all other regulatory documents necessary to further Develop and Commercialize the BMS Reversion Products, as they exist as of the date of such termination (and all of Company's right, title and interest therein and thereto), BMS shall determine in its sole discretion subject to applicable Laws which of these shall be (i) assigned to BMS, and Company shall provide to BMS one (1) copy of the applicable documents and filings, all documents and filings contained in or referenced in any such filings, together with the raw and summarized data for any preclinical studies and Clinical Trials of the Licensed Products as well as any final documentation to inactivate any open INDs as BMS may elect to inactivate, [*******], and preparing such items in connection with such transfer, or (ii) withdrawn or inactivated [*******]. For clarity, BMS shall have the right to use the foregoing material information, materials and data developed by Company solely in connection with BMS' development, manufacture and commercialization of BMS Reversion Products. BMS shall have the right to obtain specific performance of Company's obligations referenced in this Section 13.4.2 and/or solely in the event of failure to obtain such assignment referenced in this Section 13.4.2, Company hereby consents and grants to BMS the right to access and reference (without any further action required on the part of Company, whose authorization to file this consent with any Regulatory Authority is hereby granted) any and all such regulatory filings

relating to the BMS Reversion Products for any regulatory or other use or purpose in the Territory. Without limiting the foregoing in this paragraph, to the extent applicable, Company's obligations under the previous sentence shall continue with respect to all countries in the Territory for which there is a failure to obtain assignment of all regulatory filings and Approvals.

13.4.3 All amounts due or payable to BMS that were accrued prior to the effective date of termination shall remain due and payable; but (except as otherwise expressly provided herein) no additional amounts shall be payable based on events occurring after the effective date of termination; *provided*, that the foregoing shall not be deemed to limit Company's indemnification obligations under this Agreement for acts or omissions incurring prior to the termination date that are the subject of such indemnification even if the indemnification amount cannot be accrued or determined as of the termination date.

13.4.4 BMS shall have the right to retain all amounts previously paid to BMS by Company.

13.4.5 Should Company have any inventory of any Licensed Compound included in the BMS Reversion Products suitable for use in clinical trials, Company shall offer to sell such Licensed Compound to BMS [*******] (but BMS shall be under no obligation to purchase same unless it agrees to do so in writing at such time). Any such Licensed Compound that are cGMP (the "Reversion cGMP Clinical Materials") shall be accompanied by a certificate of analysis, certificate of manufacturing, batch records and other such documentation, information materials as may be required under Applicable Law to enable use of such Reversion cGMP Clinical Material in human Clinical Trials, including written certification that such Reversion cGMP Clinical Materials were both (a) manufactured, and (b) stored and handled at all times following such manufacture, in accordance with cGMP. **Except as set forth in the previous sentence, Company makes no other representations or warranties, express or implied, as to any inventory of Licensed Compound sold to BMS pursuant to this Section 13.4.5, including any warranty as to merchantability or fitness for a particular use or purpose.**

13.4.6 Should Company have any inventory of any Licensed Product included in the BMS Reversion Products approved and allocated prior to termination, Company shall have [*******] thereafter in which to dispose of such inventory (subject to the payment to BMS of any royalties due hereunder thereon) (the "Inventory Disposal Period"), *provided however*, that (i) such right shall terminate at such time that BMS purchases all remaining stocks of inventory of such BMS Reversion Product as described in this Section 13.4.6, below, and (ii) such Licensed Product shall [*******] provided to such purchaser for the Licensed Product in the applicable country during the [*******] preceding such termination and, in addition, such sales [*******] preceding such termination. Notwithstanding the foregoing, if BMS takes over responsibility for sale of the BMS Reversion Products in any country in the Territory prior to the end of the Inventory Disposal Period, BMS shall be required to purchase all remaining stocks of saleable inventory that meets BMS specifications and return policies of such BMS Reversion Product [*******]. Any such Licensed Compound that are cGMP (the "Reversion cGMP Commercial Materials") shall be accompanied by a certificate of analysis, certificate of manufacturing, batch records and other such documentation, information materials as may be required under Applicable Law to enable sale of such Reversion cGMP Commercial Material, including written certification that such Reversion cGMP Commercial Materials were both (a) manufactured, and (b) stored and handled at all times

following such manufacture, in accordance with cGMP. **Except as set forth in the previous sentence, Company makes no other representations or warranties, express or implied, as to any inventory of Licensed Compound sold to BMS pursuant to this Section 13.4.6, including any warranty as to merchantability or fitness for a particular use or purpose.**

13.4.7 Company shall use Commercially Reasonable Efforts to provide to BMS the tangible embodiments of all Know-How owned or Controlled by Company and its Affiliates to the extent necessary for the Development and Commercialization of the BMS Reversion Products in existence as of the date of such termination, [*******], and preparing and making such items in connection with such transfer (without duplicating any amounts reimbursed pursuant to Sections 13.4.2 and 13.4.10), including Company's manufacturing processes, techniques and trade secrets for making such BMS Reversion Products and all Know-How specifically relating to any composition, formulation, method of use or manufacture of such BMS Reversion Products, such Know-How including all data generated during the term of this Agreement necessary for the development and/or commercialization of the relevant BMS Reversion Products, and BMS shall automatically have a perpetual, worldwide, transferable, sublicensable right and license under such Know-How solely for (a) researching, Developing, using, importing, selling and offering for sale BMS Reversion Products in the Territory, which license shall be exclusive for purposes of this subpart (a), and (b) making and having made BMS Reversion Products anywhere in the Territory for use, importation, sale and offer for sale in the Territory, which license shall be non-exclusive for purposes of this subpart (b). Company shall reasonably cooperate with BMS to assist BMS with understanding and using the Know-How provided to BMS under this Section 13.4.7. Such cooperation shall be limited to providing BMS with up to [*******] hours of reasonable access to Company personnel by teleconference or in-person at Company's facilities (subject to Company's customary rules and restrictions with respect to site visits by non-Company personnel and [*******]).

13.4.8 To the extent that Company owns any trademark(s) and/or domain names that pertain specifically to an BMS Reversion Product without any reference to the Company that BMS believes would be necessary for the Commercialization of a BMS Reversion Product (as then currently marketed, but not including any marks that include, in whole or part, any corporate name or logo of Company), Company shall assign (or, if applicable, cause its Affiliate to assign) to BMS all of Company's (and such Affiliate's) right, title and interest in and to any such registered or unregistered trademark, trademark application, trade name or internet domain name in each terminated country.

13.4.9 Company shall grant and hereby grants to BMS an exclusive, royalty-bearing (solely to the extent set forth in Section 13.4.16), non-transferable (except as provided in Section 15.4) license, with the right to grant sublicenses, under (a) any Patent Rights owned or Controlled by Company or its Affiliates as of the effective date of termination and (b) all Patent Rights owned or Controlled by Company or its Affiliates after the date of such termination claiming any invention conceived or reduced to practice by or on behalf of Company during the term of this Agreement, in each case of (a) and (b) solely to the extent covering the composition of matter, use, or manufacture of BMS Reversion Products (solely to the extent actually practiced in connection with the BMS Reversion Products as of such termination effective date) and that, in each case of (a) and (b), are necessary to Develop, manufacture or Commercialize BMS Reversion Products solely for (i) researching, Developing, using, importing, selling and

offering for sale BMS Reversion Products in the Territory, (ii) making and having made BMS Reversion Products anywhere in the Territory for use, importation, sale and offer for sale in the Territory. All rights in the Patent Rights owned or Controlled by Company or its Affiliates not expressly granted to BMS under this Section 13.4.9 are reserved by Company and may be used by Company for any purpose.

13.4.10 Company shall provide to BMS a copy of all data generated during the term of this Agreement necessary for the development and/or commercialization of the relevant BMS Reversion Products and assign or license (or, if applicable, cause its Affiliate to assign or license) to BMS all of Company's (and such Affiliate's) entire right, title and interest in and to all such data [*******], and preparing and making such items in connection with such transfer ([*******]).

13.4.11 Neither Party shall be relieved of any obligation that accrued prior to the effective date of such termination.

13.4.12 Except as set forth in Section 13.4.16, BMS shall not owe any other compensation to Company for the research, Development and Commercialization of any BMS Reversion Product in the event of any such termination of the Agreement by BMS.

13.4.13 [*******].

13.4.14 It is understood and agreed that BMS shall be entitled to specific performance as a remedy to enforce the provisions of this Section 13.4, in addition to any other remedy to which it may be entitled by applicable Law.

13.4.15 If Company has the capability in place as of the date of such termination to commercially manufacture and supply to BMS all or part of BMS' requirements of the applicable BMS Reversion Products for use and sale in the Territory, if BMS so elects in its sole discretion, to the extent Company is reasonably able Company shall supply to BMS for a period not to exceed [*******] (with the period of time being within the sole discretion of BMS) as much of BMS' requirements of such BMS Reversion Products as possible for use and sale in the Territory, at a price equal to [*******] (determined in accordance with GAAP) for such BMS Reversion Products, under terms and conditions as may be mutually agreed between the Parties. In the event that Company has, prior to the date of such termination, engaged a Third Party to manufacture and supply any BMS Reversion Products, Company shall use reasonable efforts, [*******], to assist in the transfer of such supply arrangements to BMS. In the event that BMS terminates this Agreement under Section 13.2, to the extent Company is reasonably able Company shall supply BMS' requirements of all such BMS Reversion Products in quantities manufactured for and supplied to Company by such Third Party for a period not to exceed [*******] (with the period of time being within the sole discretion of BMS) as much of BMS' requirements of such BMS Reversion Products as possible (not to exceed amounts needed by Company for Development and/or Commercialization by Company); *provided however*, if there are restrictions in the agreement between Company and such Third Party governing the manufacture and supply of such BMS Reversion Products that would preclude the period from being up to [*******], then such period shall be up to as long a time as permitted under such agreement. Where Company has engaged a Third Party to manufacture and supply any BMS Reversion Products to Company and BMS elects to have Company supply any portion of BMS' requirements of such BMS Reversion Products, then Company shall supply such BMS Reversion Products at a price equal to [*******].

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

13.4.16 BMS shall pay Company a royalty equal to [*******] of net sales of such BMS Reversion Product in the applicable terminated country by BMS or BMS' Affiliates, licensees or sublicensees, *provided* that such termination occurs any time [*******]. For purposes of this Section 13.14.16, "net sales" shall be calculated in the same manner Net Sales are defined for sales made by Company, substituting "BMS, its Affiliates and (sub)licensees" for each reference to a Related Party in such Section.

13.4.17 Nothing in this Section 13.4 shall be deemed to limit any remedy to which either Party may be entitled by applicable Law.

13.5 Effect of Termination by Company for Breach by BMS. Upon termination of this Agreement by Company pursuant to Section 13.3.2:

13.5.1 All rights and licenses granted to Company in Article 2 shall terminate, all rights of Company under the BMS Patent Rights and BMS Know-How shall revert to BMS, and Company and its Affiliates shall cease all use of the BMS Patent Rights, the BMS Know-How and the Transferred Materials, and shall return to BMS all unused portions of the Transferred Materials.

13.5.2 All amounts due or payable to BMS that were accrued, or that arise out of acts or events occurring, prior to the effective date of termination or expiration shall remain due and payable; but (except as otherwise expressly provided herein) no additional amounts shall be payable based on events occurring after the effective date of termination or expiration.

13.5.3 BMS shall have the right to retain all amounts previously paid to BMS by Company.

13.5.4 Should Company have any inventory of any Licensed Product approved and allocated prior to termination for sale in a terminated country, Company shall have [*******] thereafter in which to dispose of such inventory (subject to the payment to BMS of any royalties due hereunder thereon).

13.5.5 Neither Party shall be relieved of any obligation that accrued prior to the effective date of such termination or expiration.

13.5.6 Nothing in this Section 13.5 shall be deemed to limit any remedy to which Company may be entitled by applicable Law.

13.6 Effect of Expiration of this Agreement. Upon expiration of this Agreement:

13.6.1 All amounts due or payable to BMS that were accrued, or that arise out of acts or events occurring, prior to the effective date of expiration shall remain due and payable; but (except as otherwise expressly provided herein) no additional amounts shall be payable based on events occurring after the effective date of expiration.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

13.6.2 BMS shall have the right to retain all amounts previously paid to BMS by Company.

13.6.3 Neither Party shall be relieved of any obligation that accrued prior to the effective date of expiration.

13.6.4 The license with respect to BMS Patent Rights and BMS Know-How granted under Section 2.1 shall convert to a non-exclusive, perpetual, irrevocable, fully paid-up license.

13.7 Scope of Termination. Termination of this Agreement shall be as to all countries in the Territory and all Licensed Compounds and all Licensed Products.

13.8 Survival. The following provisions shall survive termination or expiration of this Agreement, as well as any other provisions which by their nature are intended to survive termination: Article 1 (as applicable), Sections 8.6 through 8.10 (for three (3) years after the end of the Calendar Year in which this Agreement was terminated), Section 9.4, Section 9.5, Section 10.1, Section 10.4 (with respect to an action, suit or proceeding commenced prior to termination), Section 10.8, Article 11, Article 12, whichever one of Sections 13.4, 13.5, 13.6 or 13.7 applies, this Section 13.8, Section 13.10, Article 14 and Article 15.

13.9 Bankruptcy. The Parties agree that in the event a Party becomes a debtor under Title 11 of the U.S. Code ("Title 11"), this Agreement shall be deemed to be, for purposes of Section 365(n) of Title 11, a license to rights to "intellectual property" as defined therein. Each Party as a licensee hereunder shall have the rights and elections as specified in Title 11. Any agreements supplemental hereto shall be deemed to be "agreements supplementary to" this Agreement for purposes of Section 365(n) of Title 11.

13.10 No Limitation of Remedies. Except as herein expressly provided, notwithstanding anything to the contrary in this Agreement, except as otherwise set forth in this Agreement, termination or expiration of this Agreement shall not relieve the Parties of any liability or obligation which accrued hereunder prior to the effective date of such termination or expiration nor prejudice either Party's right to obtain performance of any obligation. Each Party shall be free, pursuant to Article 14, to seek (without restriction as to the number of times it may seek) damages, costs and remedies that may be available under applicable Law or in equity and shall be entitled to offset the amount of any damages and costs obtained in a final determination under Article 14 of monetary damages or costs (as permitted by this Agreement) against the other Party against any amounts otherwise due to such other Party under this Agreement.

ARTICLE 14

DISPUTE RESOLUTION

14.1 Resolution by Senior Executives. Except as provided in Sections 8.7 and 14.3, in the event of any dispute between the Parties in connection with this Agreement, the construction hereof, or the rights, duties or liabilities of either Party hereunder, including any disagreement as to whether there has been a material breach of this Agreement pursuant to Sections 13.2.2, 13.2.3,

or 13.3.2, the Parties shall first attempt in good faith to resolve such dispute by negotiation and consultation between themselves. In the event that such dispute is not resolved on an informal basis within [*******] Business Days, either Party may, by written notice to the other Party, refer the dispute to (i) the Chief Executive Officer of Company and (ii) if a scientific matter, the Executive Vice President & Chief Scientific Officer of BMS or, if a commercial matter, the Chief Commercial Officer of BMS for attempted resolution by good faith negotiation within [*******] days after such notice is received; *provided*, *however*, such executive officers of Company and BMS may each designate a senior manager to whom such dispute is delegated instead for such attempted resolution.

14.2 Remedies. Except as provided in Sections 8.7 and 14.3, if any dispute between the Parties relating to or arising out this Agreement cannot be resolved in accordance with Section 14.1, each Party shall be free to pursue any or all available remedies at law or in equity, consistent with Section 15.8.

14.3 Injunctive Relief. Notwithstanding anything in this Article 14, each Party shall have the right to seek injunctive or other equitable relief from a court of competent jurisdiction pursuant to Section 15.8 that may be necessary to avoid irreparable harm, maintain the status quo or preserve the subject matter of the dispute, including any breach or threatened breach of Article 11.

ARTICLE 15

MISCELLANEOUS

15.1 Severability. If any one or more of the provisions of this Agreement is held to be invalid or unenforceable, the provision shall be considered severed from this Agreement and shall not serve to invalidate any remaining provisions hereof. The Parties shall make a good faith effort to replace any invalid or unenforceable provision with a valid and enforceable one such that the objectives contemplated by the Parties when entering this Agreement with respect to such provision may be realized.

15.2 Notices. Any notice required or permitted to be given by this Agreement shall be in writing and shall be delivered by hand or overnight courier with tracking capabilities or mailed postage prepaid by first class, registered or certified mail, return receipt requested and addressed as set forth below unless changed by notice so given:

If to Company:

Ayala Pharmaceuticals, Inc
c/o PHS Corporate Services
1313 N. Market Street, Suite 5100
Wilmington, DE 19801

If to BMS:

Bristol-Myers Squibb Company
P.O. Box 4000
Route 206 & Province Line Road
Princeton, New Jersey 08543-4000
Attention: Vice President, Business Development

With a copy to:

Bristol-Myers Squibb Company
P.O. Box 4000
Route 206 & Province Line Road
Princeton, New Jersey 08543-4000
Attention: Vice President & Assistant General Counsel, Business Development and Licensing

Any such notice shall be deemed delivered on the date received. A Party may add, delete, or change the person or address to whom notices should be sent at any time upon written notice delivered to the Party's notices in accordance with this Section 15.2.

15.3 Force Majeure. Neither Party shall be liable for delay or failure in the performance of any of its obligations hereunder if such delay or failure is due to causes beyond its reasonable control, including acts of God, fires, earthquakes, strikes and labor disputes, acts of war, terrorism, civil unrest or intervention of any governmental authority ("Force Majeure"); *provided*, *however*, that the affected Party notifies the other Party within a reasonable period of time and further *provided* that the affected Party shall use Commercially Reasonable Efforts to avoid or remove such causes of non-performance and to mitigate the effect of such occurrence, and shall continue performance with the utmost dispatch whenever such causes are removed. When such circumstances arise, the Parties shall negotiate in good faith any modifications of the terms of this Agreement that may be necessary or appropriate in order to arrive at an equitable solution.

15.4 Assignment.

15.4.1 BMS may, without Company's consent, (x) assign, delegate or transfer some or all of its rights and obligations hereunder to any Affiliate of BMS, and (y) assign or transfer, in connection with any transfer or assignment of all of the BMS Patent Rights and BMS Know-How, to any Third Party (including a successor in interest by reason of merger, consolidation or sale of substantially all of the assets of BMS to which this Agreement relates).

15.4.2 Company may assign or transfer all of its rights and obligations hereunder without BMS's consent to a successor in interest by reason of merger, consolidation or sale of substantially all of the assets of Company (and so long as such assignment or transfer includes, without limitation, all Approvals, all manufacturing assets relating to this Agreement, and all rights and obligations under this Agreement); *provided*, *however*, that such successor in interest shall have agreed prior to such assignment or transfer to be bound by the terms of this Agreement in a writing provided to BMS.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

15.4.3 Subject to the foregoing, this Agreement shall inure to the benefit of, and be binding on, the Parties' permitted successors and assigns. Any assignment or transfer in violation of the foregoing shall be null and void and wholly invalid, the assignee or transferee in any such assignment or transfer shall acquire no rights whatsoever, and the non-assigning, non-transferring Party shall not recognize, nor shall it be required to recognize, such assignment or transfer.

15.4.4 In the event that BMS assigns, delegates or otherwise transfers this Agreement, in whole or in part, to an Affiliate of BMS, BMS hereby agrees to be jointly and severally liable with any such Affiliates for the actions of such Affiliates and for any and all amounts that become due and payable hereunder to Company. In the event that Company assigns or otherwise transfers or assigns this Agreement to an Affiliate of Company, Company hereby agrees to be jointly and severally liable with any such Affiliates for the actions of such Affiliates and for any and all amounts that become due and payable hereunder to BMS. If Company transfers or assigns this Agreement, and such transfer or assignment has an adverse tax consequence to BMS, then Company shall make additional payments BMS under this Agreement to provide BMS the payments that would have been due to BMS had such transfer or assignment not occurred. For clarity, the Company shall not be responsible for the payment of capital gains taxes incurred by BMS associated with BMS's equity ownership in Company.

15.4.5 Notwithstanding anything to the contrary in this Agreement, in the event of any such transfer or assignment to a Third Party (including a successor in interest by reason of merger, consolidation or sale of assets permitted), the intellectual property rights of the acquiring party (if other than one of the Parties) or the acquired party (if acquired by a Party or its Affiliates) shall not be included in the technology licensed to the other Party hereunder to the extent (x) held by such Third Party that is acquired or is acquiring such Party prior to such transaction, or (y) such technology is developed thereafter outside the scope of activities conducted with respect to the Licensed Compounds or Licensed Products.

15.5 Further Assurances. Each Party agrees to do and perform all such further acts and things and shall execute and deliver such other agreements, certificates, instruments and documents necessary or that the other Party may deem advisable in order to carry out the intent and accomplish the purposes of this Agreement and to evidence, perfect or otherwise confirm its rights hereunder.

15.6 Waivers and Modifications. The failure of any Party to insist on the performance of any obligation hereunder shall not be deemed to be a waiver of such obligation. Waiver of any breach of any provision hereof shall not be deemed to be a waiver of any other breach of such provision or any other provision on such occasion or any succeeding occasion. No waiver, modification, release or amendment of any obligation under or provision of this Agreement shall be valid or effective unless in writing and signed by each of the Parties.

15.7 Choice of Law. This Agreement shall be governed by, enforced, and shall be construed in accordance with the laws of the State of Delaware without regard to its conflicts of law provisions.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

15.8 Jurisdiction. Each Party irrevocably submits to the exclusive jurisdiction and venue of the state and federal courts for the State of Delaware for the purposes of any suit, action, dispute, or other proceeding arising out of this Agreement or out of any transaction contemplated hereby. Each Party irrevocably and unconditionally waives any objection to the laying of venue of any action, suit or proceeding arising out of this Agreement or the transactions contemplated hereby in the state and federal courts for the State of Delaware, and hereby and thereby further irrevocably and unconditionally waives and agrees not to plead or claim in any such court that any such action, suit or proceeding brought in any such court has been brought in an inconvenient forum.

15.9 Publicity. Upon execution of this Agreement, Company may issue the press release announcing the existence of this Agreement in the form and substance as set forth in Appendix 5. Each Party agrees not to issue any other press release or other public statement disclosing other information relating to this Agreement or the transactions contemplated hereby without the prior written consent of the other Party, such consent not to be unreasonably withheld, delayed or conditioned, *provided*, *however*, that any disclosure which is required by Law or the rules of a securities exchange, as reasonably advised by the disclosing Party's outside counsel, and *provided*, *further*, that Company may from time to time issue public statements relating to the ongoing Development and/or Commercialization of Licensed Compounds and/or Licensed Products (excluding disclosure of the financial terms of this Agreement) pursuant to this Agreement without the prior written consent of BMS. The Parties agree that any such required disclosure shall not contain confidential business or technical information and, if disclosure of confidential business or technical information is required by Law, the Parties shall use appropriate diligent efforts to minimize such disclosure and obtain confidential treatment for any such information which is disclosed to a governmental agency. Each Party agrees to provide to the other Party a copy of any public announcement regarding this Agreement or the subject matter thereof as soon as reasonably practicable under the circumstances prior to its scheduled release. Except under extraordinary circumstances, each Party shall provide the other with an advance copy of any such announcement at least [*******] business days prior to its scheduled release. Each Party shall have the right to expeditiously review and recommend changes to any such announcement and, except as otherwise required by Law, the Party whose announcement has been reviewed shall remove any information the reviewing Party reasonably deems to be inappropriate for disclosure. The contents of any announcement or similar publicity which has been reviewed and approved by the reviewing Party can be re-released by either Party without a requirement for re-approval.

15.10 Relationship of the Parties. Each Party is an independent contractor under this Agreement. Nothing contained herein is intended or is to be construed so as to constitute BMS and Company as partners, agents or joint venturers. Neither Party shall have any express or implied right or authority to assume or create any obligations on behalf of or in the name of the other Party or to bind the other Party to any contract, agreement or undertaking with any Third Party.

15.11 Headings. Headings and captions are for convenience only and are not be used in the interpretation of this Agreement.

15.12 Entire Agreement. This Agreement constitutes the entire agreement between the Parties as to the subject matter of this Agreement, and supersedes and merges all prior negotiations, representations, agreements and understandings regarding the same.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

15.13 Counterparts; Electronic Delivery. This Agreement may be executed in counter-parts with the same effect as if both Parties had signed the same document. All such counterparts shall be deemed an original, shall be construed together and shall constitute one and the same instrument. Signatures to this Agreement transmitted by email in "portable document format" (".pdf"), or by any other electronic means intended to preserve the original graphic and pictorial appearance of this Agreement shall have the same effect as physical delivery of the paper document bearing original signature.

15.14 Performance by Affiliates. Each Party recognizes that the other Party may perform some or all of its obligations under this Agreement through Affiliates to the extent permitted under this Agreement; *provided*, *however*, that such other Party shall remain responsible for the performance by its Affiliates as if such obligations were performed by such other Party.

15.15 Exports. Company agrees not to export or re-export, directly or indirectly, any information, technical data, the direct product of such data, samples or equipment received or generated under this Agreement in violation of any applicable export control Laws.

15.16 Interpretation.

15.16.1 Each of the Parties acknowledges and agrees that this Agreement has been diligently reviewed by and negotiated by and between them, that in such negotiations each of them has been represented by competent counsel and that the final agreement contained herein, including the language whereby it has been expressed, represents the joint efforts of the Parties and their counsel. Accordingly, in interpreting this Agreement or any provision hereof, no presumption shall apply against any Party as being responsible for the wording or drafting of this Agreement or any such provision, and ambiguities, if any, in this Agreement shall not be construed against any Party, irrespective of which Party may be deemed to have authored the ambiguous provision.

15.16.2 The definitions of the terms herein shall apply equally to the singular and plural forms of the terms defined. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms. The words "include", "includes" and "including" shall be deemed to be followed by the phrase "without limitation". The word "will" shall be construed to have the same meaning and effect as the word "shall". The word "any" shall mean "any and all" unless otherwise clearly indicated by context.

15.16.3 Unless the context requires otherwise, (a) any definition of or reference to any agreement, instrument or other document herein shall be construed as referring to such agreement, instrument or other document as from time to time amended, supplemented or otherwise modified (subject to any restrictions on such amendments, supplements or modifications set forth herein or therein), (b) any reference to any Laws herein shall be construed as referring to such Laws as from time to time enacted, repealed or amended, (c) any reference herein to any Person shall be construed to include the Person's successors and assigns, (d) the words "herein", "hereof" and "hereunder", and words of similar import, shall be construed to refer to this Agreement in its entirety and not to any particular provision hereof, (e) all references herein to Articles, Sections or Appendices, unless otherwise specifically provided, shall be construed to refer to Articles, Sections and Appendices of this Agreement; and (f) the term "and/or" in a sentence shall be construed such that the phrase "X and/or Y" means "X or Y, or both X and Y".

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

15.16.4 This Agreement should be interpreted in its entirety and the fact that certain provisions of this Agreement may be cross-referenced in a Section shall not be deemed or construed to limit the application of other provisions of this Agreement to such Section and vice versa.

* * *

[SIGNATURE PAGE FOLLOWS]

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective duly authorized officers.

AYALA PHARMACEUTICALS, INC.

By: /s/ Roni Malmuk
(Signature)

Name: Roni Malmuk

Title: Director & CEO

Date: November 29, 2017

By: /s/ David Sidransky
(Signature)

Name: David Sidransky

Title: Chairman of the Board of Directors

Date: November 29, 2017

BRISTOL-MYERS SQUIBB COMPANY

By: /s/ Arthur H. Bertelsen
(Signature)

Name: Arthur H. Bertelsen

Title: VP, Research Collaborations

Date: 29 Nov. 2017

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Appendix 1

BMS Patent Rights

[***]

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

Appendix 2

Initial Development Plan

[***]

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

Appendix 3

Licensed Compound

[***]

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

Appendix 4

Transferred Materials to be provided by BMS

[***]

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Appendix 5

Press Release

Ayala Pharmaceuticals, founded by Israel Biotech Fund and aMoon, enters exclusive worldwide license agreement with Bristol-Myers Squibb (BMS)

Rehovot, Israel – _____ 2017 – Ayala, a biopharmaceutical company dedicated to developing targeted cancer therapies, announced today that they have entered into an exclusive worldwide license agreement with Bristol-Myers Squibb for two gamma secretase inhibitors in development for the treatment of cancers with altered Notch genes.

Under the terms of the license agreement, Ayala will have exclusive worldwide development and commercialization rights for BMS-906024 and 986115, two gamma secretase inhibitors previously developed by BMS as a Notch inhibitor for oncology indications. In connection with the license, Bristol-Myers Squibb received an upfront payment, became a shareholder of Ayala, and is eligible to receive certain development-, regulatory-, and sales-based milestones, as well as tiered annual net sales royalties. Ayala is responsible for all future development and commercialization of BMS-906024 and BMS986115.

Israel Biotech Fund identified the opportunity, led the due diligence and syndicated with aMoon in 2017 to form Ayala. The new company intends to develop BMS-906024 as a precision medicine for niche orphan patient populations harboring Notch activating mutations.

“We believe BMS-906024 is the best in class gamma secretase inhibitor” said Ayala’s Chairman of the Board of Directors, David Sidransky, MD. “Although most Notch targeted clinical trials have traditionally recruited non-selected populations, our approach is to target patients with specific Notch alterations whose tumors are expected to respond directly to this treatment”. Dr. Sidransky is a Co-Founder and Managing Partner of Israel Biotech Fund. He was Vice Chairman of ImClone Systems until its acquisition by Eli Lilly and the chairman and board member of several NASDAQ listed Biotech companies.

“This is an exciting opportunity in personalized therapy for Oncology, bringing new hope to cancer patients with no approved treatment options” said Roni Mamluk, PhD who joined Ayala as CEO. “We plan to initiate phase II clinical trials in 2018”. Roni Mamluk, is the former CEO of Chiasma and a member of its board of directors.

“Partnering with Ayala allows for the continued development of BMS-906024 and BMS986115 and demonstrates our commitment to seeking opportunities that enable the continued development of drug candidates that might benefit certain patients,” said Tim Reilly, Vice President, Head of Early Oncology Development at BMS. “Dr. Sidransky and Ayala are strategically positioned to focus their resources on the targeted development of these candidates for the treatment of cancers with altered Notch genes.”

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About Israel Biotech Fund

Israel Biotech Fund is a venture fund focused on at or near clinical stage biotechnology and pharmaceutical companies with exceptional technologies or product opportunities. The Fund provides its portfolio companies not only with capital, but with executive talent, strategic, operational, and business development resources, enabling them to design and execute clinical development programs efficiently and successfully. The Managing Partners are joined by a group of top-tier biotech industry experts who act as venture advisors of the Fund and its portfolio companies.

Additional information about Israel Biotech Fund is available at www.israelbiotechfund.com.

About aMoon

aMoon fund was founded in 2016 by Marius Nacht, Co-Founder and Chairman of the Israeli cyber security giant Check Point Software, and by Dr. Yair Schindel, former CEO of the National Gov't Bureau "Digital Israel" and former CEO of Startup Nation Central. It is a venture capital firm operating in the Israeli healthcare and life science sector focusing on companies which offer either life-saving solutions or significant cost savings for global healthcare systems. The goal of the fund is to turn Israel into a major contributor in global healthcare and to fuel the development of cutting edge healthcare innovations that will increase the number of individuals leading healthier, longer and more productive lives.

About BMS-906024

BMS-906024 is a gamma secretase inhibitor developed as a Notch inhibitor for oncology indications. Preclinical studies have shown low nM inhibitory activity for all four Notch receptors (1-4) and robust, broad-spectrum efficacy was seen in traditional and PDX (Patient Derived Xenograft) models, including T-ALL, TNBC, NSCLC, Colorectal and Pancreatic carcinoma. In phase 1b clinical studies, given once a week by iv injection, the molecule has shown remarkable PK/PD attributes and was tolerable with manageable side effects in 205 cancer patients.

Forward Looking Statements

This press release includes forward-looking statements. Because such statements deal with future events, they are subject to various risks and uncertainties and actual results could differ materially from Ayala's current expectations. Forward-looking statements are identified by words such as "anticipates," "projects," "expects," "plans," "intends," "believes," "may," "estimates," "targets," "hopes," and other similar expressions that indicate trends and future events.

Factors that could cause Ayala's results to differ materially from those expressed in forward-looking statements include, without limitation, delays in receiving regulatory guidance for the development of BMS-906024, uncertainties inherent in the initiation of future clinical trials, availability of data from previous clinical trials, satisfactory quantities of clinical drug product, availability of patients who meet the clinical trial enrollment criteria, availability of sufficient funding for foreseeable and unforeseeable operating expenses and capital expenditure requirements, and other matters that could affect the availability or commercial potential of BMS-906024. Ayala undertakes no obligation to revise or update forward-looking statements as a result of new information, since these statements may no longer be accurate or timely.

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

Appendix 6

Documentation to be provided

[***]

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

Appendix 7

Series A Term Sheet

[***]

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FIRST AMENDMENT TO LICENSE AGREEMENT

This First Amendment to License Agreement (this "**Amendment**"), made and effective as of May 4, 2020 (the "**Amendment Effective Date**"), is by and between Bristol-Myers Squibb Company, a Delaware corporation ("**Licensor**"), and Ayala Pharmaceuticals, Inc., a Delaware corporation ("**Licensee**"), and amends that certain License Agreement between Licensor and Licensee dated as of November 29, 2017 (the "**Agreement**"). All capitalized terms used in this Amendment but not herein defined shall have the meanings ascribed to such terms in the Agreement.

WHEREAS, the Parties have entered into the Agreement, as may be amended or otherwise modified from time to time in accordance with its provisions; and

WHEREAS, the Parties desire to amend the Agreement.

NOW, THEREFORE, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. The first sentence of Section 8.1.2 of the Agreement is hereby amended and restated in its entirety to read as follows:

"Within sixty [***] days after the Effective Date, issue to BMS preferred stock of Company equal to eight percent (8.0%) of Company's capital stock on a fully diluted basis at the time of issuance, and concurrent with any subsequent issuances of equity by Company, BMS shall be entitled to receive without any additional consideration that number of additional shares of Company preferred stock as is required for BMS to maintain its eight percent (8.0%) equity ownership in Company (on a fully-diluted basis); provided that this anti-dilution right shall apply only until the earlier to occur of (i) the date by which Company shall have raised [***] in proceeds from equity financings in the aggregate and (ii) the date by which Company's pre-money valuation is equal to [***] or more in connection with the closing of an equity investment of not less than [***] that includes an investment of not less than [***] by external investors that are not, nor have ever been, Affiliates of Company or of any of the stockholders of Company prior to the closing of such equity financing; *provided further* that with respect to equity financings in excess of such [***] or pre-money valuations in excess of [***] that occur prior to the initial public offering of shares of the Company's capital stock ("IPO"), BMS shall have the right (but not the obligation) to participate, in its sole discretion, in any such financings (for the avoidance of doubt, excluding the IPO) on the same terms and conditions (including price) as the other investors in order to maintain its eight percent (8.0%) ownership interest in Company (on a fully diluted basis)."

2. The Parties agree that, except for the modification expressly set forth in this Amendment, all terms and provisions of the Agreement shall remain unchanged and in full force and effect. No waiver or modification of the terms or provisions of the Agreement is intended or is to be inferred, except as expressly provided in this Amendment. This Amendment shall be governed by the internal law of the State of Delaware, without regard to conflict of law principles that would result in the application of any law other than the law of the State of Delaware. This Amendment and the Agreement shall hereafter be read and construed together as a single document, and all references in the Agreement to the Agreement shall hereafter refer to the

Certain information marked as [***] has been excluded from this exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

Agreement as amended by this Amendment. In the event of any conflict between this Amendment and the Agreement, the terms of this Amendment will control. This Amendment may be executed by the Parties in separate and identical counterparts, each of which when so executed and delivered will be an original, but all of which taken together will constitute one and the same instrument. Execution may be affected by delivery of facsimiles of signature pages (and the Parties shall follow such delivery by prompt delivery of originals of such pages).

IN WITNESS WHEREOF, the Parties have executed this Amendment as of the Amendment Effective Date.

BRISTOL-MYERS SQUIBB COMPANY

By: /s/ Robert Merriman
Name: Robert Merriman
Title: Executive Director, Business Development

AYALA PHARMACEUTICALS, INC.

By: /s/ Roni Mamluk
Name: Roni Mamluk
Title: Chief Executive Officer

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the reference to our firm under the caption “Experts” in Amendment No. 1 to the registration statement on Form S-1 (No. 333-236942) and the related prospectus of Ayala Pharmaceuticals, Inc. for the registration of common stock, par value $ 0.01 per share and to the use therein of our report dated March 6, 2020, except for the effects of the reverse stock split as described in Note 13 as to which the date is May 4, 2020, with respect to the consolidated financial statements of Ayala Pharmaceuticals, Inc.

/s/ Kost, Forer, Gabbay & Kasierer

Tel-Aviv, Israel
May 4, 2020

KOST, FORER, GABBAY & KASIERER
A Member of EY Global