

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

**FORM S-1
REGISTRATION STATEMENT**
*UNDER
THE SECURITIES ACT OF 1933*

Ayala Pharmaceuticals, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

2836
(Primary Standard Industrial
Classification Code Number)

82-3578375
(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 500
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 Liquornik Geva Leshem Tal
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 this Registration Statement becomes effective.**

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. ☒ 333-236942

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☒

(Do not check if a smaller reporting company)

Emerging growth company☒

If an emerging growth company, indicate by checkmark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided 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(1)
Common Stock, \$0.01 par value per share	\$1,916,661.00	\$248.79

(1) The registration fee is calculated in accordance with Rule 457(o) under the Securities Act of 1933, as amended (the “Securities Act”), based on the proposed maximum aggregate offering price. The registrant previously registered securities with a proposed maximum aggregate offering price not to exceed \$61,333,344.00 on a Registration Statement on Form S-1, as amended (File No. 333-236942), which was declared effective by the Securities and Exchange Commission on May 7, 2020. In accordance with Rule 462(b) promulgated under the Securities Act, an additional amount of securities having a proposed maximum aggregate offering price of \$1,916,661.00 is hereby registered, which includes the additional shares issuable upon the exercise of the underwriters’ option to purchase additional shares.

This Registration Statement shall become effective upon filing with the Securities and Exchange Commission in accordance with Rule 462(b) promulgated under the Securities Act.

EXPLANATORY NOTE AND INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

This Registration Statement is being filed with the Securities and Exchange Commission (the “SEC”), pursuant to Rule 462(b) under the Securities Act of 1933, as amended (the “Securities Act”). This Registration Statement relates to the public offering of common stock, par value \$0.01 per share (the “Common Stock”), of Ayala Pharmaceuticals, Inc. (the “Registrant”), contemplated by the Registration Statement on Form S-1, as amended (File No. 333-236942), initially filed with the SEC by the Registrant on March 6, 2020 (as amended, the “Prior Registration Statement”) pursuant to the Securities Act, which was declared effective by the SEC on May 7, 2020. The contents of the Prior Registration Statement, including all amendments and exhibits thereto, are incorporated by reference into this Registration Statement.

The Registrant is filing this Registration Statement for the sole purpose of increasing the aggregate offering price of shares to be offered in the public offering by \$1,916,661.00, which includes additional shares that the underwriters have the option to purchase. The additional shares of Common Stock that are being registered for issuance and sale are in an amount and at a price that together represent no more than 20% of the maximum aggregate offering price set forth in the Calculation of Registration Fee table contained in the Prior Registration Statement.

The required opinion and consents are listed in Part II, Item 16 of this Registration Statement and filed herewith.

PART II

Information Not Required in Prospectus

Item 16. Exhibits

The following documents are filed as exhibits to this Registration Statement, and all other exhibits previously filed as exhibits to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-236942), are incorporated by reference into, and shall be deemed to be a part of, this filing.

<u>Exhibit Number</u>	<u>Description of Exhibit</u>
5.1	<u>Opinion of Latham & Watkins LLP (incorporated by reference to Exhibit 5.1 filed with the Prior Registration Statement filed on May 4, 2020)</u>
23.1	<u>Consent of Independent Registered Public Accounting Firm.</u>
23.2	<u>Consent of Latham & Watkins LLP (included in Exhibit 5.1)</u>
24.1*	<u>Power of Attorney.</u>

* Previously filed on the signature page to the Registrant's Registration Statement on Form S-1, as amended (File No. 333-236942) filed with the Securities and Exchange Commission on March 6, 2020 and incorporated by reference herein.

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 7th day of May, 2020.

AYALA PHARMACEUTICALS, INC.

By: /s/ Roni Mamluk

Roni Mamluk, Ph.D.

President and Chief Executive Officer

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities held on the dates indicated.

Signature	Title	Date
<u>/s/ Roni Mamluk</u> Roni Mamluk, Ph.D.	President, Chief Executive Officer and Director (principal executive officer)	May 7, 2020
<u>/s/ Yossi Maimon</u> Yossi Maimon, CPA, M.B.A.	Chief Financial Officer, Treasurer and Secretary (principal financial and accounting officer)	May 7, 2020
<u>*</u> David Sidransky, M.D.	Chairman of the Board of Directors	May 7, 2020
<u>*</u> Robert Spiegel, M.D., FACP	Director	May 7, 2020
<u>*</u> Murray A. Goldberg	Director	May 7, 2020
<u>*</u> Todd Sone	Director	May 7, 2020
<u>*By: /s/ Yossi Maimon</u> Yossi Maimon <i>Attorney-in-fact</i>		

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement on Form S-1 filed pursuant to Rule 462(b) of the Securities Act of 1933 of the reference to our firm under the caption “Experts” and to the incorporation by reference 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 financial statements of Ayala Pharmaceuticals, Inc. included in Amendment No. 1 to the Registration Statement (Form S-1 No. 333-236942) and related Prospectus of Ayala Pharmaceuticals, Inc. for the registration of its common stock.

/s/ Kost, Forer, Gabbay & Kasierer

KOST, FORER, GABBAY & KASIERER

A Member of EY Global

Tel-Aviv, Israel

May 7, 2020