

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-1**REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933****Applied Therapeutics, Inc.**

(Exact name of Registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)**2834**
(Primary Standard Industrial
Classification Code Number)**81-3405262**
(I.R.S. Employer
Identification No.)**545 5th Avenue, Suite 1400**
New York, NY 10017
(212) 220-9226

(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

Shoshana Shendelman, Ph.D.
President and Chief Executive Officer
545 5th Avenue, Suite 1400
(212) 220-9226

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:**Andrea L. Nicolas**
Michael J. Schwartz
Skadden, Arps, Slate, Meagher & Flom LLP
4 Times Square
New York, NY 10036
(212) 735-3000**Richard D. Truesdell, Jr.**
Marcel R. Fausten
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, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. x 333-235988

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. o

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. o

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 Securities Exchange Act of 1934.

Large accelerated filer	<input type="radio"/>	Accelerated filer	<input type="radio"/>
Non-accelerated filer	<input checked="" type="radio"/>	Smaller reporting company	<input checked="" type="radio"/>
		Emerging growth company	<input checked="" type="radio"/>

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. x

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be registered(1)	Proposed maximum offering price per share	Proposed maximum aggregate offering price	Amount of registration fee(2)
Common stock, \$0.0001 par value per share	565,212	\$ 45.50	\$ 25,717,146	\$ 3,338.09

(1) Represents only the additional number of shares of common stock being registered and includes an additional 73,723 shares of common stock that the underwriters have the option to purchase. Does not include the securities that the registrant previously registered on a Registration Statement on Form S-1 (File No. 333-235988).

(2) Calculated in accordance with Rule 457(a) under the Securities Act of 1933, as amended (the "Securities Act").

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

EXPLANATORY NOTE AND INCORPORATION BY REFERENCE

This registration statement on Form S-1 is being filed by Applied Therapeutics, Inc., a Delaware corporation (the “Company”), pursuant to Rule 462(b) under the Securities Act of 1933, as amended (the “Securities Act”) for the sole purpose of increasing the aggregate number of shares of common stock offered by the Company. The contents of the Company’s Registration Statement on Form S-1, as amended (File No. 333-235988) (the “Prior Registration Statement”), which was declared effective by the Securities and Exchange Commission on January 23, 2020, and all exhibits thereto, are incorporated by reference into this registration statement in their entirety and are deemed to be a part of this registration statement. The additional shares 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 Registrant hereby certifies that it (i) has instructed its bank to transmit to the SEC the filing fee set forth on the cover page of this Registration Statement by a wire transfer of such amount to the SEC’s account at U.S. Bank as soon as practicable (but no later than the close of business on January 24, 2020), (ii) will not revoke such instructions, (iii) has sufficient funds in the relevant account to cover the amount of such filing fee and (iv) will confirm receipt of such instructions by its bank during the bank’s regular business hours no later than January 24, 2020.

The required opinions and consents are listed on an Exhibit Index attached hereto and filed herewith.

EXHIBIT INDEX

The following documents are filed as part of this Registration Statement:

<u>Exhibit Number</u>	<u>Description</u>
5.1	Opinion of Skadden, Arps, Slate, Meagher & Flom LLP.
23.1	Consent of Ernst & Young LLP, an Independent Registered Public Accounting Firm.
23.3	Consent of Skadden, Arps, Slate, Meagher & Flom LLP (included in Exhibit 5.1).
24.1*	Power of attorney.

* Previously filed on signature page to the registrant's Registration Statement on Form S-1 (File No. 333-235988), filed with the Securities and Exchange Commission on January 21, 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 New York, New York, on January 23, 2020.

APPLIED THERAPEUTICS, INC.

By: /s/ Shoshana Shendelman
Name: Shoshana Shendelman, Ph.D.
Title: President and Chief Executive Officer

Pursuant to the requirements of the Securities Act this Registration Statement has been signed by the following persons in the capacities and on the dates indicated:

<u>Name</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Shoshana Shendelman</u> Shoshana Shendelman, Ph.D.	President and Chief Executive Officer (principal executive officer)	January 23, 2020
<u>*</u> Mark J. Vignola, Ph.D.	Chief Financial Officer (principal financial officer and accounting officer)	January 23, 2020
<u>*</u> Les Funtleyder	Director	January 23, 2020
<u>*</u> Teena Lerner, Ph.D.	Director	January 23, 2020
<u>*</u> Stacy Kanter	Director	January 23, 2020
<u>*</u> Joel S. Marcus	Director	January 23, 2020
<u>*</u> Jay S. Skyler, M.D., MACP	Director	January 23, 2020

*By: /s/ Shoshana Shendelman
Shoshana Shendelman, Ph.D.
As Attorney-in-Fact

January 23, 2019

Applied Therapeutics, Inc.
545 5th Avenue, Suite 1400
New York, NY 10173

Re: Applied Therapeutics, Inc.
Registration Statement on Form S-1

Ladies and Gentlemen:

We have acted as special counsel to Applied Therapeutics, Inc., a Delaware corporation (the "Company"), in connection with the public offering by the Company of shares of the Company's common stock, par value \$0.0001 per share ("Common Stock"), pursuant to the Registration Statement (as defined below). This opinion relates to up to 565,212 additional shares of Common Stock (including up to 73,723 additional shares of Common Stock subject to overallotment option) (the "Shares"), offered by the Company pursuant to the registration statement to which this opinion pertains to be filed by the Company on the date hereof (the "462(b) Registration Statement").

This opinion is being furnished in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act of 1933 (the "Securities Act").

In rendering the opinion stated herein, we have examined and relied upon the following:

- (a) the registration statement on Form S-1 (File No. 333-235988) of the Company filed on January 21, 2019 with the Securities and Exchange Commission (the "Commission") under the Securities Act and Pre-Effective Amendment No. 1 thereto, including the information deemed to be a part of the registration statement pursuant to Rule 430A of the Rules and Regulations (such registration statement being hereinafter referred to as the "Registration Statement");
 - (b) the prospectus, dated September 23, 2020 (the "Prospectus"), which forms a part of and is included in the Registration Statement;
 - (c) the 462(b) Registration Statement;
 - (d) the form of the Underwriting Agreement (the "Underwriting Agreement") proposed to be entered into between the Company and Goldman Sachs & Co. LLC, Cowen and
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Company, LLC and UBS Securities LLC, representatives of the several Underwriters named therein (the “Underwriters”), relating to the sale by the Company to the Underwriters of the Shares, filed as Exhibit 1.1 to the Registration Statement;

(e) an executed copy of a certificate of Shoshana Shendelman, Secretary of the Company, dated the date hereof (the “Secretary’s Certificate”)

(e) a copy of the Company’s Amended and Restated Certificate of Incorporation, filed as Exhibit 3.1 to the Registration Statement (the “Amended and Restated Certificate of Incorporation”) and certified by the Secretary of State of the State of Delaware as of the date hereof and certified pursuant to the Secretary’s Certificate;

(e) a copy of the Company’s Amended and Restated Bylaws, filed as Exhibit 3.2 to the Registration Statement (the “Amended and Restated Bylaws”) and certified pursuant to the Secretary Certificate; and

(f) a copy of certain resolutions of the Board of Directors of the Company, adopted on January 19, 2020 and certain resolutions of the Pricing Committee thereof, adopted on January 23, 2020 and certified pursuant to the Secretary Certificate.

We have also examined originals or copies, certified or otherwise identified to our satisfaction, of such records of the Company and such agreements, certificates and receipts of public officials, certificates of officers or other representatives of the Company and others, and such other documents as we have deemed necessary or appropriate as a basis for the opinion stated below, including the facts and conclusions set forth in the Secretary’s Certificate and the factual representations and warranties contained in the Underwriting Agreement.

In our examination, we have assumed the genuineness of all signatures, including endorsements, the legal capacity and competency of all natural persons, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as facsimile, electronic, certified or photocopied copies, and the authenticity of the originals of such copies. With respect to our opinion set forth below, we have assumed that the issuance of the Shares will not violate or conflict with any agreement or instrument binding on the Company (except that we do not make this assumption with respect to the Amended and Certificate of Incorporation, the Amended and Restated Bylaws or those agreements or instruments expressed to be governed by the laws of the State of New York which are listed in Part II of the Registration Statement). As to any facts relevant to the opinion stated herein that we did not independently establish or verify, we have relied upon statements and representations of officers and other representatives of the Company and others and of public officials, including the factual representations and warranties set forth in the Underwriting Agreement.

We do not express any opinion with respect to the laws of any jurisdiction other than the General Corporation Law of the State of Delaware (the “DGCL”).

Based upon the foregoing and subject to the qualifications and assumptions stated herein, we are of the opinion that when (i) the Underwriting Agreement has been duly authorized, executed and delivered by the Company and the other parties thereto, (ii) certificates in the form

required under the DGCL representing the Shares are duly executed and countersigned by the transfer agent; and (iii) the Shares are registered in the Company's share registry and delivered upon payment of the consideration therefor determined by the Board of Directors, the Shares, when issued and sold in accordance with the provisions of the Underwriting Agreement, will be duly authorized by all requisite corporate action on the part of the Company under the DGCL and validly issued, fully paid and nonassessable, provided that the consideration therefor is not less than \$0.0001 per Share.

We hereby consent to the reference to our firm under the heading "Legal Matters" in the prospectus forming part of the Registration Statement. We also hereby consent to the filing of this opinion with the Commission as an exhibit to the 462(b) Registration Statement. In giving this consent, we do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the Rules and Regulations.

Very truly yours,

/s/ Skadden, Arps, Slate, Meagher & Flom LLP

MJS

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 8, 2019 (except for Note 12, as to which the date is April 29, 2019), with respect to the financial statements of Applied Therapeutics, Inc. included in the Registration Statement (Form S-1 No. 333-235988) and related Prospectus of Applied Therapeutics, Inc. for the registration of shares of its common stock.

/s/ Ernst & Young LLP

New York, New York
January 23, 2020
