

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

FORM S-8
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

Alnylam Pharmaceuticals, Inc.
(Exact Name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction of
Incorporation or Organization)

77-0602661
(I.R.S. Employer
Identification No.)

**675 West Kendall Street,
Henri A. Termeer Square
Cambridge, Massachusetts 02142**
(Address of Principal Executive Offices)

02142
(Zip Code)

2018 Stock Incentive Plan
(Full Title of the Plan)

John M. Maraganore, Ph.D.
Chief Executive Officer
Alnylam Pharmaceuticals, Inc.
675 West Kendall Street,
Henri A. Termeer Square
Cambridge, Massachusetts 02142
(Name and Address of Agent For Service)

(617) 551-8200
(Telephone Number, Including Area Code, of Agent For Service)

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 12b2 of the Exchange Act.

Large accelerated filer ☒

Non-accelerated filer ☐ (Do not check if a smaller reporting company)

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 Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Offering Price Per Share(3)	Proposed Maximum Aggregate Offering Price(3)	Amount of Registration Fee
Common Stock, \$0.01 par value per share	3,290,000 shares(2)	\$120.71	\$397,135,900.00	\$51,548.24
(1) In accordance with Rule 416 under the Securities Act of 1933, as amended (the “Securities Act”), this registration statement shall be deemed to cover any additional securities that may from time to time be offered or issued to prevent dilution resulting from stock splits, stock dividends or similar transactions.				
(2) Consists of 3,290,000 shares issuable under the 2018 Stock Incentive Plan, pursuant to the terms of such plan.				
(3) Estimated solely for the purpose of calculating the registration fee pursuant to Rules 457(c) and 457(h) of the Securities Act and based upon the average of the high and low prices of the Registrant’s Common Stock as reported on the Nasdaq Global Select Market on February 6, 2020.				

EXPLANATORY NOTE

This Registration Statement on Form S-8 is filed for the purposes of registering 3,290,000 additional shares of common stock, par value \$0.01 per share (“Common Stock”) of Alnylam Pharmaceuticals, Inc. (the “Registrant”) that may be issued pursuant to equity awards granted pursuant to the Alnylam Pharmaceuticals, Inc. 2018 Stock Incentive Plan (the “2018 Plan”). On April 25, 2019, pursuant to an Amendment to the 2018 Plan, the number of shares of Common Stock reserved and available for issuance under the 2018 Plan increased by 3,290,000. This Registration Statement registers these additional 3,290,000 shares of Common Stock. The additional shares are of the same class as other securities relating to the 2018 Plan for which the Registrant’s registration statement filed on Form S-8 (Registration No. 333-226533) on August 2, 2018, is effective. The information contained in the Registrant’s registration statement on Form S-8 (Registration No. 333-226533), is hereby incorporated by reference pursuant to General Instruction E, except for “Item 8. Exhibits.”

PART II
INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 8. Exhibits.

<u>Number</u>	<u>Description</u>
5.1	<u>Opinion of Goodwin Procter LLP, counsel to the Registrant</u>
23.1	<u>Consent of Goodwin Procter LLP (included in Exhibit 5.1)</u>
23.2	<u>Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm</u>
24	<u>Power of Attorney (included on the signature page of this registration statement)</u>
99.1	<u>2018 Stock Incentive Plan (incorporated by reference to Exhibit 10.1 to the registrant's Quarterly Report on Form 10-Q filed on August 6, 2019 (File No. 001-36407) for the quarterly period ended June 30, 2019)</u>

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Cambridge, Commonwealth of Massachusetts, on this 13th day of February, 2020.

ALNYLAM PHARMACEUTICALS, INC.

By: /s/ John M. Maraganore, Ph.D.

John M. Maraganore, Ph.D.

Chief Executive Officer

POWER OF ATTORNEY AND SIGNATURES

We, the undersigned officers and directors of Alnylam Pharmaceuticals, Inc., hereby severally constitute and appoint John M. Maraganore and Jeffrey V. Poulton, and each of them singly, our true and lawful attorneys with full power to them, and each of them singly, to sign for us and in our names in the capacities indicated below, the registration statement on Form S-8 filed herewith and any and all subsequent amendments to said registration statement, and generally to do all such things in our names and on our behalf in our capacities as officers and directors to enable Alnylam Pharmaceuticals, Inc. to comply with the provisions of the Securities Act of 1933, and all requirements of the Securities and Exchange Commission, hereby ratifying and confirming our signatures as they may be signed by our said attorneys, or any of them, to said registration statement and any and all amendments thereto.

Pursuant to the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
<u>/s/ John M. Maraganore, Ph.D.</u> John M. Maraganore, Ph.D.	Chief Executive Officer and Director (Principal Executive Officer)	February 13, 2020
<u>/s/ Jeffrey V. Poulton</u> Jeffrey V. Poulton	Chief Financial Officer (Principal Financial and Accounting Officer)	February 13, 2020
<u>/s/ Dennis A. Ausiello, M.D.</u> Dennis A. Ausiello, M.D.	Director	February 13, 2020
<u>/s/ Michael W. Bonney</u> Michael W. Bonney	Director	February 13, 2020
<u>/s/ Marsha H. Fanucci</u> Marsha H. Fanucci	Director	February 13, 2020
<u>/s/ Margaret A. Hamburg, M.D.</u> Margaret A. Hamburg, M.D.	Director	February 13, 2020
<u>/s/ Steven M. Paul, M.D.</u> Steven M. Paul, M.D.	Director	February 13, 2020
<u>/s/ David E.I. Pyott</u> David E.I. Pyott	Director	February 13, 2020
<u>/s/ Colleen F. Reitan</u> Colleen F. Reitan	Director	February 13, 2020
<u>/s/ Paul R. Schimmel, Ph.D.</u> Paul R. Schimmel, Ph.D.	Director	February 13, 2020
<u>/s/ Amy W. Schulman</u> Amy W. Schulman	Director	February 13, 2020
<u>/s/ Phillip A. Sharp, Ph.D.</u> Phillip A. Sharp, Ph.D.	Director	February 13, 2020



Goodwin Procter LLP
100 Northern Avenue
Boston, MA 02210

goodwinlaw.com

+1 617 570 1000

February 13, 2020

Alnylam Pharmaceuticals, Inc.
675 West Kendall Street
Henri A. Termeer Square
Cambridge, Massachusetts 02142

Re: Securities Being Registered under Registration Statement on Form S-8

Ladies and Gentlemen:

We have acted as counsel to you in connection with your filing of a Registration Statement on Form S-8 (the "Registration Statement") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), on or about the date hereof relating to an additional 3,290,000 shares (the "Shares") of Common Stock, \$0.01 par value per share, of Alnylam Pharmaceuticals, Inc., a Delaware corporation (the "Company"), that may be issued pursuant to the Company's 2018 Stock Incentive Plan, as amended (the "Stock Plan").

We have reviewed such documents and made such examination of law as we have deemed appropriate to give the opinions set forth below. We have relied, without independent verification, on certificates of public officials and, as to matters of fact material to the opinion set forth below, on certificates of officers of the Company.

The opinion set forth below is limited to the Delaware General Corporation Law.

For purposes of the opinion set forth below, we have assumed that no event occurs that causes the number of authorized shares of Common Stock available for issuance by the Company to be less than the number of then unissued Shares.

Based on the foregoing, we are of the opinion that the Shares have been duly authorized and, upon issuance and delivery against payment therefor in accordance with the terms of the Stock Plan, will be validly issued, fully paid and nonassessable.

We hereby consent to the inclusion of this opinion as Exhibit 5.1 to the Registration Statement. In giving our consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Very truly yours,

/s/ Goodwin Procter LLP

GOODWIN PROCTER LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of Alnylam Pharmaceuticals, Inc. of our report dated February 13, 2020 relating to the financial statements, and the effectiveness of internal control over financial reporting, which appears in Alnylam Pharmaceutical's Annual Report on Form 10-K for the year ended December 31, 2019.

/s/ PricewaterhouseCoopers LLP
Boston, Massachusetts
February 13, 2020