UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): August 24, 2022 (August 19, 2022)

Alnylam Pharmaceuticals, Inc.

001-36407 77-0602661 **Delaware** (State or Other Jurisdiction (IRS Employer (Commission of Incorporation) File Number) Identification No.) 675 West Kendall Street, Henri A. Termeer Square Cambridge, Massachusetts 02142 (Address of Principal Executive Offices) (Zip Code) Registrant's telephone number, including area code: (617) 551-8200 Not applicable (Former Name or Former Address, if Changed Since Last Report) Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below): Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425) Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12) Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b)) Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c)) Securities registered pursuant to Section 12(b) of the Act: Trading Name of Each Exchange on Which Registered **Title of Each Class** Symbol(s) Common Stock, \$0.01 par value per share ALNY The Nasdaq Stock Market LLC Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter)or Rule 12b-2 of the Securities Exchange Act of 1934(§240.12b-2 of this chapter). Emerging growth company \square 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 13(a) of the Exchange Act. \Box

Item 5.02. Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers

Effective as of August 22, 2022, the Board of Directors (the "Board") of Alnylam Pharmaceuticals, Inc. (the "Company"), following the recommendation of its Nominating and Corporate Governance Committee, expanded the size of the Company's Board from ten to eleven and elected Dr. Elliott Sigal to fill the newly created vacancy. Dr. Sigal will serve as a Class I director with a term expiring at the annual meeting of stockholders to be held in 2023.

As a non-employee director, Dr. Sigal will receive an annual cash fee of \$55,000. In addition, in connection with his election to the Board, on August 22, 2022, Dr. Sigal received a stock option to purchase 4,456 shares of the Company's common stock, having an aggregate grant date fair value equal to \$600,000.00 (rounded to the nearest share) using the Company's then current Black-Scholes valuation model, vesting ratably in three annual installments beginning on the one-year anniversary of the grant date, with an exercise price of \$217.91 per share. Beginning in 2023, Dr. Sigal will be eligible to receive an annual stock option award, in an amount determined by the Board upon recommendation of the People, Culture and Compensation Committee (currently such number of shares of the Company's common stock with an aggregate grant date fair value equal to \$400,000.00 (rounded to the nearest share) using the Company's then current Black-Scholes valuation model per the Company's compensation policy for non-employee directors), vesting in full on the one-year anniversary of the grant date, with an exercise price equal to the fair market value of the Company's common stock on the date of grant. The Company will also reimburse Dr. Sigal for reasonable travel and other related expenses incurred in connection with his service on the Board.

In addition, Dr. Sigal entered into an indemnification agreement with the Company consistent with the form of the existing indemnification agreement entered into between the Company and its non-employee directors.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: August 24, 2022

ALNYLAM PHARMACEUTICALS, INC.

By: /s/ Jeffrey V. Poulton

Jeffrey V. Poulton

Executive Vice President, Chief Financial Officer