

ALNYLAM PHARMACEUTICALS, INC.

Form DEF 14A

March 21, 2019

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 14A

(Rule 14a-101)

INFORMATION REQUIRED IN PROXY STATEMENT

SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of the Securities

Exchange Act of 1934

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

Preliminary Proxy Statement

Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))

Definitive Proxy Statement

Definitive Additional Materials

Soliciting Material Pursuant to §240.14a-12

ALNYLAM PHARMACEUTICALS, INC.

(Name of Registrant as Specified in Its Charter)

(Name of Person(s) Filing Proxy Statement, if Other Than the Registrant)

Payment of Filing Fee (Check the appropriate box):

No fee required.

Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

- (1) Title of each class of securities to which transaction applies:

- (2) Aggregate number of securities to which transaction applies:

- (3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):

- (4) Proposed maximum aggregate value of transaction:

- (5) Total fee paid:

Fee paid previously with preliminary materials: _____

Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

(1) Amount previously paid:

(2) Form, Schedule or Registration Statement No.:

(3) Filing Party:

(4) Date Filed:

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LETTER FROM OUR CEO

March 21, 2019

To our Stockholders:

We invite you to attend the 2019 Annual Meeting of Stockholders of Alnylam Pharmaceuticals, Inc., which will be held online on Thursday, April 25, 2019, beginning at 12:00 p.m., Eastern Time. You may attend the meeting virtually via the Internet at www.virtualshareholdermeeting.com/ALNY2019, where you will be able to vote electronically and submit questions. You will need the 16-digit control number included with these proxy materials to attend the annual meeting.

The following notice of our annual meeting of stockholders contains details of the business to be conducted at the meeting. Only stockholders of record at the close of business on March 1, 2019 will be entitled to notice of, and to vote at, the annual meeting.

On behalf of our Board of Directors, thank you for your continued support and investment in Alnylam.

Very truly yours,

John M. Maraganore, Ph.D.

Chief Executive Officer and Director

On behalf of the Board of Directors of

Alnylam Pharmaceuticals, Inc.

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**NOTICE OF 2019 ANNUAL MEETING
OF STOCKHOLDERS**

Date:	Thursday, April 25, 2019
Time:	12:00 p.m., Eastern Time
Place:	Online at www.virtualshareholdermeeting.com/ALNY2019
Record Date:	March 1, 2019. Only Alnylam stockholders of record at the close of business on the record date for the annual meeting are entitled to notice of, and to vote at, the annual meeting or any adjournment or postponement thereof.
Items of Business:	<ol style="list-style-type: none">1. To elect four (4) members to our board of directors, as nominated by our board of directors, each to serve as a Class III director for a term ending in 2022, or until a successor has been duly elected and qualified;2. To approve an amendment to our Restated Certificate of Incorporation to permit the holders of at least a majority of our common stock to call special meetings of the stockholders;3. To approve an amendment to our Restated Certificate of Incorporation to increase the number of authorized shares of common stock from 125,000,000 to 250,000,000 shares;4. To approve, contingent upon the approval of Item 3, an amendment to our 2018 Stock Incentive Plan to, among other things, increase the number of shares of common stock authorized for issuance thereunder by 3,290,000 shares;5. To approve, on a non-binding advisory basis, the compensation of our named executive officers, as described in the Compensation Discussion and Analysis, executive compensation tables and accompanying narrative disclosures in this proxy statement;6. To ratify the appointment of PricewaterhouseCoopers LLP, an independent registered public accounting firm, as our independent auditors for the fiscal year ending December 31, 2019; and7. To transact any other business that may properly come before the annual meeting or any adjournment or postponement thereof.
Virtual Meeting:	To participate in the annual meeting virtually via the Internet, please visit www.virtualshareholdermeeting.com/ALNY2019 . You will need the 16-digit control number included on your proxy card or the instructions that accompanied your proxy materials. Stockholders will be able to vote and submit questions during the annual meeting.
Voting:	You will not be able to attend the annual meeting in person. Proposal 1 relates solely to the election of four (4) Class III directors nominated by our board of directors and does not include any other matters relating to the election of directors, including without limitation, the election of directors nominated by any stockholder of the company.

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Your vote is important regardless of the number of shares you own. Whether or not you plan to participate in the annual meeting online, we hope you will take the time to vote your shares. To assure your representation at the annual meeting, if you are a stockholder of record, please vote in one of these three ways:

Vote Over the Internet, by going to www.proxyvote.com and entering the 16-digit control number provided on your proxy card or voting instruction form;

Vote by Telephone, by calling 1-800-690-6903 or the number on your proxy card or voting instruction form. You will need the 16-digit control number provided on your proxy card or voting instruction form; or

Vote by Mail, by completing, signing and dating the proxy card or voting instruction form and mailing it in the accompanying pre-addressed envelope. If you vote over the Internet or by telephone, please do not mail your proxy.

If you vote via the Internet or by telephone or mail your proxy in, you will not limit your right to vote online at the annual meeting.

If your shares are held in street name, that is, held for your account by a broker or other nominee, you will receive instructions from the holder of record that you must follow for your shares to be voted.

**Important Notice Regarding the Availability of Proxy Materials
for the Stockholder Meeting to Be Held on April 25, 2019**

This Notice of 2019 Annual Meeting, Proxy Statement, 2018 Annual Report on Form 10-K and Annual Report to Stockholders are available for viewing, printing and downloading at www.proxyvote.com.

By Order of the Board of Directors,

Laurie B. Keating

Executive Vice President, Chief Legal Officer and Secretary

Cambridge, Massachusetts

March 21, 2019

This notice and proxy statement are expected to be first mailed to stockholders on or about March 22, 2019. Our Annual Report to Stockholders and our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 are being mailed with these proxy materials to all stockholders entitled to vote at the annual

meeting.

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This summary highlights important information you will find in this Proxy Statement. As it is only a summary, please review the complete Proxy Statement before you vote.

Virtual Annual Meeting Information

Date: Thursday, April 25, 2019
Time: 12:00 p.m., Eastern Time
Location: Online at www.virtualshareholdermeeting.com/ALNY2019
You will not be able to attend the annual meeting in person.
Record Date: March 1, 2019

Voting Items and Board Recommendations

		Board Recommendation
Proposal 1	Election of Four (4) Class III Directors	FOR All Nominees
Proposal 2	Approval of a Charter Amendment to Permit Holders of at least a Majority of our Common Stock to Call Special Meetings of Stockholders	FOR
Proposal 3	Approval of a Charter Amendment to Increase Number of Authorized Shares of Common Stock	FOR
Proposal 4	Approval of an Amendment to 2018 Stock Incentive Plan	FOR
Proposal 5	Say-on-Pay Advisory Vote on Approval of Executive Compensation	FOR

Proposal 6 **Ratification of Independent Auditors** FOR

All proxies will be voted in accordance with the instructions contained in those proxies. If no choice is specified, the proxies will be voted in favor of the matters set forth in the accompanying Notice of Meeting. On any other matters

properly brought before the annual meeting, the named proxies shall vote in accordance with their best judgment.

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How to Vote

Vote Right Away Through Advance Voting Methods			Vote During Meeting
Vote by Internet Using Your Computer	Vote by Telephone	Vote by Mail	Vote During the Meeting
Go to www.proxyvote.com and enter the 16-digit control number provided on your proxy card or voting instruction form.	Call 1-800-690-6903 or the number on your proxy card or voting instruction form. You will need the 16-digit control number provided on your proxy card or voting instruction form.	Complete, sign and date the proxy card or voting instruction form and mail it in the accompanying pre-addressed envelope.	See Important Information About the Annual Meeting and Voting for details on how to vote during the Annual Meeting.

**Important Notice Regarding the Availability of Proxy Materials for
the Annual Meeting of Stockholders to be Held on April 25, 2019**

This Proxy Statement, our Annual Report on Form 10-K and our Annual Report to Stockholders are available for viewing, printing and downloading at www.proxyvote.com.

A copy of our Annual Report on Form 10-K for the fiscal year ended December 31, 2018, as filed with the Securities and Exchange Commission, or SEC, on February 14, 2019, will be furnished without charge to any stockholder upon written request to Alnylam Pharmaceuticals, Inc., 300 Third Street, Cambridge, Massachusetts 02142, Attention: Investor Relations and Corporate Communications.

This Proxy Statement and our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 are also available on the SEC's website at www.sec.gov.

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**IMPORTANT INFORMATION ABOUT THE
ANNUAL MEETING AND VOTING**

Notice and Access

We are providing these proxy materials to you in connection with the solicitation by our board of directors of proxies to be voted at our 2019 annual meeting of stockholders to be held online on Thursday, April 25, 2019 at 12:00 p.m., Eastern Time (ET). As a stockholder of Alnylam, you are invited to participate in our annual meeting virtually via the Internet, and are entitled and requested to vote on the proposals described in this proxy statement.

Who Can Vote

To be entitled to vote, you must be a stockholder of record at the close of business on March 1, 2019, the record date for our annual meeting. As of the record date, there were 106,304,442 shares of our common stock outstanding.

If you were a stockholder of record on March 1, 2019, you are entitled to vote all of the shares that you held on that date at the annual meeting and at any postponement or adjournment thereof.

Voting Rights

Each outstanding share of our common stock will be entitled to one vote on each matter considered at the annual meeting.

Voting

Alnylam's stockholders may vote their shares over the Internet, by telephone or during the annual meeting by going to www.virtualshareholdermeeting.com/ALNY2019. If you requested and/or received a printed version of the proxy card, you may also vote by mail.

By Internet. You may vote at www.proxyvote.com, 24 hours a day, seven days a week. You will need the 16-digit control number included on your proxy card or voting instruction form. Votes submitted through the Internet must be received by 11:59 p.m. ET on April 24, 2019.

By Telephone. You may vote using a touch-tone telephone by calling 1-800-690-6903, 24 hours a day, seven days a week. You will need the 16-digit control number included on your proxy card or voting instruction form. Votes submitted by telephone must be received by 11:59 p.m. ET on April 24, 2019.

By Mail. If you received printed proxy materials, you may submit your vote by completing, signing and dating each proxy card received and returning it in the prepaid envelope. Sign your name exactly as it appears on the proxy card. Proxy cards submitted by mail must be received no later than April 24, 2019 to be voted at the annual meeting.

During the Annual Meeting. You may vote during the annual meeting by going to www.virtualshareholdermeeting.com/ALNY2019. You will need the 16-digit control number included on your proxy card or voting instruction form. If you previously voted via the Internet (or by telephone or mail), you will not limit your right to vote online at the annual meeting.

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If you vote via the Internet or by telephone, your electronic vote authorizes the named proxies in the same manner as if you signed, dated and returned your proxy card. If you vote via the Internet or by telephone, do not return your proxy card.

Revoking a Proxy

If your shares are registered directly in your name, you may revoke your proxy and change your vote at any time before the annual meeting. To do so, you must do one of the following:

Vote over the Internet or by telephone as instructed above. Only your latest Internet or telephone vote is counted. You may not change your vote over the Internet or by telephone after 11:59 p.m. ET on April 24, 2019.

Sign a new proxy and submit it as instructed above. Only your latest dated proxy, received by no later than April 24, 2019, will be counted.

Participate in the annual meeting virtually via the Internet and vote again. Participating in the annual meeting will not revoke your Internet vote, telephone vote or proxy, unless you vote again.

Note that if your shares are held in street name, you may submit new voting instructions by contacting your bank, broker or other nominee.

Discretionary Voting Authority

If your shares are registered directly in your name, you are a stockholder of record who may vote at the meeting, and we are sending these proxy materials directly to you. As the stockholder of record, you have the right to direct the voting of your shares by voting over the Internet, by telephone, by returning your proxy or by voting online during the annual meeting at www.virtualshareholdermeeting.com/ALNY2019.

If your shares are held in an account at a bank or at a brokerage firm or other nominee holder, you are considered the beneficial owner of shares held in street name, and these proxy materials are being forwarded to you by your bank, broker or other nominee who is considered the stockholder of record for purposes of voting at the annual meeting. As the beneficial owner, you have the right to direct your bank, broker or other nominee on how to vote your shares and to participate in the virtual annual meeting. You should receive a proxy card and voting instructions with these proxy materials from that organization rather than from us. You will receive instructions from your bank, broker or other nominee explaining how you can vote your shares and whether they permit Internet or telephone voting. Follow the instructions from your bank, broker or other nominee included with these proxy materials, or contact your bank, broker or other nominee to request a proxy form. We encourage you to provide voting instructions to your bank, broker or other nominee by giving your proxy to them. This ensures that your shares will be voted at the annual meeting according to your instructions. **You will not be able to vote shares you hold in street name at the annual meeting; instead you must instruct your bank, broker or other nominee in advance of the meeting.**

Note that under New York Stock Exchange, or NYSE, rules, if you hold shares through a bank, broker or other institution and you do not provide your voting instructions to them at least ten days before the annual meeting, that firm has the discretion to vote your shares on proposals that the NYSE has determined are routine. Such firm will not have the discretion to vote your shares on

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proposals that the NYSE has determined are non-routine. A broker non-vote refers to a share represented at the meeting held by a broker, as to which instructions have not been received from the beneficial owner or person entitled to vote such shares and with respect to which, on one or more but not all matters, the broker does not have discretionary voting power to vote such share.

Participating in the Virtual Annual Meeting

This year our annual meeting will be a completely virtual meeting. There will be no physical meeting location. The meeting will only be conducted via live webcast.

To participate in the virtual meeting, visit www.virtualshareholdermeeting.com/ALNY2019 and enter the 16-digit control number included on your proxy card or on the instructions that accompanied your proxy materials. You may begin to log into the meeting platform beginning at 11:45 a.m. ET on April 25, 2019. The meeting will begin promptly at 12:00 p.m. ET on April 25, 2019.

If you wish to submit a question, you may do so in two ways. If you want to ask a question before the meeting, then beginning on March 21, 2019 and until 11:59 p.m. on April 24, 2019, you may log into www.proxyvote.com and enter your 16-digit control number. Once past the login screen, click on Questions for Management, type in your question, and click Submit. Alternatively, if you want to submit your question during the meeting, log into the virtual meeting platform at www.virtualshareholdermeeting.com/ALNY2019, type your question into the Ask a Question field, and click Submit.

Questions pertinent to meeting matters will be answered during the meeting, subject to time constraints. The meeting is not to be used as a forum to present personal matters, or general economic, political or other views that are not directly related to the business of Alnylam and the matters properly before the meeting, and therefore questions on such matters will not be answered. Any questions pertinent to meeting matters that cannot be answered during the meeting due to time constraints will be posted online and answered at <http://investors.alnylam.com/shareholder-services/annual-meeting>. The questions and answers will be available as soon as practical after the meeting and will remain available until one week after posting.

If you encounter any technical difficulties with the virtual meeting platform on the meeting day, please call 1-855-449-0991 (Toll Free) or 1-720-378-5962 (International Toll). Technical support will be available starting at 11:30 a.m. ET on April 25, 2019 and will remain available until thirty minutes after the meeting has finished.

Requirements for a Meeting Quorum

A majority of our outstanding shares of common stock must be present to hold the annual meeting and conduct business. This is called a quorum. For purposes of determining whether a quorum exists, we count as present any shares that are voted over the Internet, by telephone, by completing and submitting a proxy, or that are represented online at the meeting, as well as any abstentions and broker non-votes. If a quorum is not present, we expect to adjourn the annual meeting until we obtain a quorum.

Vote Required to Approve Each Item on the Proxy

You may vote for, against or abstain on each of the proposals being placed before our stockholders. Abstentions and broker non-votes are included in the determination of the number of

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shares present at the annual meeting for determining a quorum at the meeting, but they are not counted as shares cast. Accordingly, abstentions and broker non-votes, if any, would have no effect on the vote for Proposals 1, 4, 5 and 6, because these Proposals are based on a percentage of the votes that are actually cast at the annual meeting. Abstentions and broker non-votes, if any, would have the same effect as a vote against Proposals 2 and 3, because these Proposals are based on a percentage of the total votes entitled to be cast at the annual meeting, rather than a percentage of the votes that are actually cast at the annual meeting.

Proposal 1 Election of Four (4) Class III Directors

With respect to the election of directors (Proposal 1), each nominee presented in Proposal 1 must be elected by a majority of the votes either cast online or by proxy at the annual meeting. Nominees are elected by a majority vote for non-contested director elections. Because the number of nominees properly nominated for the annual meeting is the same as the number of directors to be elected, the election of directors at this annual meeting is non-contested. If the number of votes FOR a nominee exceeds the number of votes AGAINST a nominee (among votes properly cast by stockholders who are either present online or represented by proxy), then the nominee will be elected.

With respect to Proposal 1, you may:

- vote FOR all nominees;
- vote FOR one or more nominee(s) and AGAINST one or more of the other nominee(s);
- vote AGAINST all nominees; or
- ABSTAIN from voting for or against one or more nominee(s).

Proposal 2 Approval of a Charter Amendment to Permit the Holders of at least a Majority of our Common Stock to Call Special Meetings of the Stockholders

To approve Proposal 2 relating to an amendment, or Charter Amendment, to our Restated Certificate of Incorporation, also referred to as our Charter, to permit holders of at least a majority of our common stock to call special meetings of the stockholders, stockholders holding at least 75% of the votes the stockholders are entitled to cast at the annual meeting must vote FOR the proposal.

Proposal 3 Approval of a Charter Amendment to Increase the Number of Authorized Shares of Common Stock from 125,000,000 to 250,000,000 Shares

To approve Proposal 3 relating to a Charter Amendment to increase the number of authorized shares of common stock from 125,000,000 to 250,000,000 shares, stockholders holding a majority of the votes the stockholders are entitled to cast at the annual meeting must vote FOR the proposal.

Proposal 4 Approval of an Amendment to our 2018 Stock Incentive Plan

To approve Proposal 4 relating to the amendment to our 2018 Stock Incentive Plan, which we refer to as the 2018 Plan, stockholders holding a majority of the votes either cast on the matter online or by proxy at the annual meeting must vote FOR the proposal.

The effectiveness of Proposal 4 and the amendment to the 2018 Plan, which we refer to as the Plan Amendment, is contingent on the approval of Proposal 3 to approve a Charter Amendment to increase

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the number of authorized shares of common stock. As a result, if the stockholders do not approve Proposal 3, then the Plan Amendment cannot become operative even if the stockholders approve Proposal 4.

Proposal 5 Non-binding Advisory Vote on the Compensation of Our Named Executive Officers

To approve Proposal 5, stockholders holding a majority of the votes either cast on the matter online or by proxy at the annual meeting must vote FOR the approval of the compensation of our named executive officers, as described in the Compensation Discussion and Analysis, executive compensation tables and accompanying narrative disclosures in this proxy statement.

As an advisory vote, this proposal is not binding. The outcome of this advisory vote will not overrule any decision by us or our board of directors (or any committee thereof). However, our compensation committee and our board of directors value the opinions expressed by our stockholders in their vote on this proposal and will consider the outcome of the vote when making future compensation decisions for our named executive officers.

Proposal 6 Ratification of Appointment of Independent Auditors

To approve Proposal 6, stockholders holding a majority of the votes either cast on the matter online or by proxy at the annual meeting must vote FOR the proposal.

Although stockholder approval of our audit committee's appointment of PricewaterhouseCoopers LLP as our independent auditors for the year ending December 31, 2019 is not required, we believe that it is advisable to give stockholders an opportunity to ratify this appointment. If this proposal is not approved at the annual meeting, our audit committee will reconsider its appointment of PricewaterhouseCoopers LLP as our independent auditors for the year ending December 31, 2019.

Other Matters to be Voted On

The board of directors is not aware of any other issue or matter that may come before the annual meeting other than the election of four (4) Class III directors, the approval of two separate Charter Amendments, the approval of the Plan Amendment, the non-binding advisory vote on the compensation of our named executive officers and the ratification of the appointment of our independent auditors. If any other matters are properly presented at the annual meeting, the persons named in the accompanying proxy intend to vote, or otherwise act, in accordance with their best judgment on the matter.

Vote Results

Preliminary voting results will be announced at the annual meeting. We expect to report the voting results in a Current Report on Form 8-K within four business days following the adjournment of our annual meeting. If final voting results are not available to us in time to file a Current Report on Form 8-K within four business days after the annual meeting, we intend to file a Current Report on Form 8-K to publish preliminary results and, within four business days after the final results are known to us, to file an additional Current Report on Form 8-K to publish the final results.

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Inspector of Election

The inspector of election and the tabulator of all proxies, ballots and voting tabulations that identify stockholders are independent and are not Alnylam employees.

Cost of Soliciting Proxies

We will bear the cost of soliciting proxies. In addition to these proxy materials, our directors, officers and employees may solicit proxies by telephone, e-mail, facsimile and in person, without additional compensation. We have also retained Alliance Advisors LLC to solicit proxies by mail, courier, telephone and facsimile and to request brokers, custodians and fiduciaries to forward proxy soliciting materials to the owners of stock held in their names. For these services, we paid a fee of approximately \$22,000, plus expenses. We may reimburse brokers or persons holding stock in their names, or in the names of their nominees, for their expenses in sending proxies and proxy materials to beneficial owners.

Alnylam's 401(k) Savings Plan

You may give voting instructions for the number of shares of Alnylam common stock equal to the interest in Alnylam common stock credited to your 401(k) plan account as of the record date. To vote these shares, complete and return to Broadridge Financial Solutions, Inc. the proxy card sent to you with this proxy statement. The 401(k) plan trustee will vote your shares according to your instructions. Only Broadridge and its affiliates or agents will have access to your individual voting instructions. You may revoke previously given voting instructions by filing with the trustee either a written revocation or a properly completed and signed proxy bearing a later date. To vote your 401(k) plan shares, you must provide your voting instructions to Broadridge before 11:59 p.m. ET on April 22, 2019, for your proxy to be valid and your vote to count. If you do not provide voting instructions to the 401(k) plan trustee, the 401(k) plan trustee will not vote your shares.

Householding of Annual Meeting Materials

Some banks, brokers and other nominee record holders may be participating in the practice of "householding" proxy statements and annual reports. This means that only one copy of our proxy statement and annual report to stockholders may have been sent to multiple stockholders in your household. We will promptly deliver a separate copy of either document to you upon written or oral request to Alnylam Pharmaceuticals, Inc., 300 Third Street, Cambridge, Massachusetts 02142, Attention: Investor Relations and Corporate Communications, telephone: (617) 551-8200. If you want to receive separate copies of the proxy statement or annual report to stockholders in the future, or if you are receiving multiple copies and would like to receive only one copy per household, you should contact your bank, broker or other nominee record holder, or you may contact us at the above address and phone number.

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CORPORATE GOVERNANCE

General

We believe that good corporate governance is important to ensure that Alnylam is managed for the long-term benefit of our stockholders. This section describes key corporate governance practices that we have adopted.

Corporate Governance Strengths

We are committed to exercising good corporate governance practices. We believe that good governance promotes the long-term interests of our stockholders and strengthens the accountability of our board of directors and management. The highlights of our corporate governance practices include the following:

- Ten out of 11 of our current directors are independent;
- Independent directors hold regular executive sessions;
- All board committees are comprised solely of independent committee members;
- Our board of directors is diverse in terms of tenure, gender, experience and skills;
- We conduct annual board and committee self-evaluations;
- Our full board of directors and its committees participate in risk oversight;
- Our board of directors and its committees may engage outside advisors independently of management;
- Our independent compensation consultant reports directly to our compensation committee;
- We have a clawback policy for recoupment of excess proceeds from cash and equity incentive compensation;
- We have majority voting in the election of directors in uncontested elections, with a director resignation policy;
- Stock ownership guidelines for directors (including our chief executive officer) and our president help to align directors and officers with stockholder interests;
- We have a strict policy of no pledging or hedging of company shares; and
- We seek annual advisory approval of executive compensation by stockholders.

Corporate Governance Materials

We have adopted a code of business conduct and ethics, which applies to all of our officers, directors and employees, as well as charters for our audit committee, our compensation committee, our nominating and corporate governance committee, and our science and technology committee. We have also adopted corporate governance guidelines. We have posted copies of these documents on the Corporate Governance page of the Investors section of our website, www.alnylam.com. We intend to disclose on our website any amendments to, or waivers from, our code of business conduct and ethics required to be disclosed by law or Nasdaq Global Select Market listing standards.

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Corporate Governance Guidelines

Our board of directors has adopted corporate governance guidelines to assist in the exercise of its duties and responsibilities and to serve the best interests of Alnylam and our stockholders. These guidelines, which provide a framework for the conduct of our board of directors' business, provide that:

our board of directors' principal responsibility is to oversee the management of Alnylam;
a majority of the members of our board shall be independent directors;
the independent directors meet regularly in executive session;
directors have full and free access to management and, as necessary and appropriate, independent advisors;
annually, our board and its committees will conduct a self-evaluation to determine whether they are functioning effectively;
our nominating and corporate governance committee will evaluate the composition, organization and governance of our board of directors and its committees and identify individuals qualified to become board members;
our nominating and corporate governance committee will review annually the external commitments of our board members to evaluate any potential conflicts of interest; and
our nominating and corporate governance committee will review all proposed external commitments of our executive officers to evaluate any potential conflicts of interest and confirm that external time commitments are appropriate relative to the executive's responsibilities to the company.

Our Environmental Sustainability and Social Responsibility Efforts

For patients and society to benefit from the therapies we develop, we believe they must be available to those who will benefit from them. We are committed to assisting patients with no or limited drug coverage to access the medicines they need. We provide patient support and education programs and help patients in financial need access ONPATTRO® (patisiran), our first marketed drug, approved in 2018. In 2017, we announced our Patient Access Philosophy, which focuses our commercial objectives on being proactive about patient access while delivering value to patients, physicians, and insurers. This philosophy commits us to act with urgency for patients, pursue value-based agreements where payment is based on the ability to deliver outcomes in real world settings, and to not increase the annualized price of our medicines above the consumer price index unless valuable new innovation has been achieved. We have also been at the forefront of developing innovative agreements and partnerships designed to improve population health and patient access, as well as outcomes-based and risk-sharing approaches that directly link the price of our therapeutics to their effectiveness.

In addition, as the leading RNAi therapeutics company, the way we operate, the work we do, and the support we provide to our local communities is tied to our desire to extend and improve the lives of our patients. We are committed to patient advocacy and community endeavors that promote and improve the understanding of rare disease and wellness. Our company participates in charitable activities relevant to our business and linked to our mission, vision and values. For example, we provide, support and sponsor diversity and inclusion efforts both within our company and in our communities. We support educational and cultural institutions in our communities, and we also encourage employee volunteerism, partnering with community service organizations to provide opportunities for employees to donate time and talents to assist neighbors in need.

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On top of our commitments to patient access and social responsibility, we believe that we have a responsibility to monitor and control our ecological impact and adopt best practices on environmental and social issues that may have a material effect on corporate strategy, risks, opportunities or performance. We continue to implement initiatives that exemplify our commitment to the environment and are currently constructing a state-of-the-art manufacturing facility in Norton, Massachusetts with these beliefs in mind.

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INFORMATION CONCERNING DIRECTOR NOMINEES

ELECTION OF CLASS III DIRECTORS (PROPOSAL 1)

We have three classes of directors, Class I, Class II and Class III. At each annual meeting, directors are elected for a term of three years to succeed those whose terms are expiring. The directors are divided as equally as possible among the three classes, and the terms of the three classes are staggered so that only one class is elected by stockholders annually. Kevin P. Starr resigned from our board of directors effective March 31, 2018. Mr. Starr was elected to our board of directors in 2003 and most recently served as a Class III director. In connection with Mr. Starr's resignation, our board of directors reduced the size of our board to ten directors. In May 2018, our board of directors expanded the size of the board from ten to 11 directors and elected Colleen F. Reitan as a Class III director to fill the vacancy, effective June 1, 2018. Ms. Reitan's term expires at the 2019 annual meeting. In October 2018, John K. Clarke resigned from our board of directors, effective January 10, 2019. Mr. Clarke was a co-founder of Alnylam and had served on our board of directors since 2002. Most recently, Mr. Clarke served as a Class II director. On October 9, 2018, our board of directors elected Margaret A. Hamburg, M.D. as a Class III director effective January 10, 2019 to fill the vacancy created by the resignation of Mr. Clarke. Dr. Hamburg's term also expires at the 2019 annual meeting.

At the annual meeting, we are proposing the election of four (4) Class III directors to hold office until the annual meeting of stockholders to be held in 2022, or until their respective successors have been duly elected and qualified. Upon the recommendation of the nominating and corporate governance committee of our board, our board has nominated Margaret A. Hamburg, M.D., Steven M. Paul, M.D., Colleen F. Reitan and Amy W. Schulman for election to the board of directors as Class III directors. Drs. Hamburg and Paul and Ms. Reitan and Schulman are currently serving as Class III directors. Dr. Hamburg has served as a director since January 2019, Dr. Paul has served as a director since September 2010, Ms. Reitan has served as a director since June 2018 and Ms. Schulman has served as a director since July 2014. The persons named in the enclosed proxy will vote to elect each nominee for Class III director unless the proxy is marked otherwise. Drs. Hamburg and Paul and Ms. Reitan and Schulman have indicated their willingness to serve on our board, but if any nominee should be unwilling or unable to serve, the person acting under the proxy may vote the proxy for a substitute nominee designated by our board, unless the board reduces the number of directors accordingly.

Each nominee for Class III director receiving a majority of the votes cast by stockholders entitled to vote thereon will be elected to serve on our board. As described more fully below under the heading "Majority Voting Policy," we have adopted a resignation policy in the event a director nominee does not receive a majority of such votes. Abstentions and broker non-votes, if any, are not counted for purposes of this proposal. The Class III directors elected at this year's annual meeting will serve as members of our board until the 2022 annual meeting of stockholders, or until their respective successors are duly elected and qualified.

Board Recommendation

Our board of directors unanimously recommends a vote **FOR the election of
each of Drs. Hamburg and Paul and Ms. Reitan and Schulman as a Class III director.**

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Set forth below for each director, including the Class III director nominees, is information as of March 1, 2019 with respect to his or her (a) name and age, (b) positions and offices at Alnylam, if any, (c) principal occupation and business experience during at least the past five years, (d) directorships, if any, of other publicly-held companies, held currently or during the past five years, and (e) the year such person became a member of our board of directors.

We have also included information below regarding each director's specific experience, qualifications, attributes and skills that led the nominating and corporate governance committee and our board of directors to the conclusion that he or she should serve as a director in light of our business and structure. Our board has determined that each director serving on our board of directors, with the exception of Dr. Maraganore, is independent within the meaning of the director independence standards of the Nasdaq Global Select Market and the Securities Exchange Act of 1934, as amended, or the Exchange Act. There are no family relationships among any of our directors or executive officers.

Class III Directors/Nominees to be elected at the 2019 annual meeting (terms expiring in 2022)

Margaret A. Hamburg, M.D. Dr. Hamburg has served as a member of our board of directors since January 2019.

Director since: 2019

Experience, Expertise and Qualifications

Age: 63

Dr. Hamburg currently serves as Foreign Secretary of the National Academy of Medicine and as Chair of the Board of the American Association for the Advancement of Science (AAAS). From May 2009 to April 2015, Dr. Hamburg served as the Commissioner of the U.S. Food and Drug Administration (FDA). From January 2001 to May 2009, Dr. Hamburg worked for the Nuclear Threat Initiative, first as Vice President for biological programs, then as Senior Scientist. From November 1997 to January 2001, Dr. Hamburg served as the Assistant Secretary for Planning and Evaluation in the Department of Health and Human Services. Prior to that, she was New York City's health commissioner. Dr. Hamburg currently serves on a number of non-profit boards. She is also a fellow of the American College of Physicians and the AAAS, and member of Harvard University Global Advisory Council, the Harvard Medical School Board of Fellows, the World Dementia Council, the Global Health Scientific Advisory Committee for the Bill and Melinda Gates Foundation, the Dean's Advisory Council for the George Washington School of Public Health and the Saw See Hock School of Public Health International Advisory Panel, and chairs the Joint Coordinating Group for the Coalition for Epidemic Preparedness Initiative (CEPI).

Key Contributions to the Board

Dr. Hamburg has an extensive background in matters of science, medicine, public health and regulatory issues, having held policy positions in the Obama, Clinton and Reagan administrations, including serving as the Commissioner of the FDA

from May 2009 to April 2015. She has done basic and clinical research at the National Institutes of

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Health and Rockefeller University. Dr. Hamburg's distinguished career and expertise in the field brings a unique regulatory and policy perspective, as well as valuable scientific and operational expertise, to our board as we continue to advance our late stage clinical development pipeline, initiate additional clinical programs, and continue to build our global commercial operations following the launch of ONPATTRO in 2018.

Steven M. Paul, M.D.

Dr. Paul has served as a member of our board of directors since September 2010.

Committees:

Experience, Expertise and Qualifications

Compensation Committee
Science and Technology Committee

Dr. Paul has served as the Chief Executive Officer and Chair of the Board of Karuna Pharmaceuticals, Inc., a clinical-stage drug development company, since August 2018. From September 2014 to July 2018, Dr. Paul served as the President, Chief Executive Officer of Voyager Therapeutics, Inc., a biotechnology company. Dr. Paul has also served as an adjunct professor of Psychiatry at Washington University of St. Louis School of Medicine since September 2017. Dr. Paul was the founding director of the Appel Alzheimer's Disease Research Institute, and was a Professor of Neurology (Neuroscience), Psychiatry and Pharmacology at Weill Cornell Medical College of Cornell University from September 2010 to 2017. Dr. Paul also served as a Venture Partner at Third Rock Ventures, a healthcare venture firm, from September 2010 to 2017. Dr. Paul served for 17 years at Eli Lilly and Company, a pharmaceutical company, most recently as the Executive Vice President for Science and Technology and President of the Lilly Research Laboratories, a division of Eli Lilly and Company, from July 2003 to his retirement in February 2010. He is a member of the Institute of Medicine of the National Academy of Sciences and a fellow of the AAAS. Prior to joining Lilly, Dr. Paul served in several senior roles at the National Institute of Mental Health, including serving as the Scientific Director of the Intramural Research Program. Dr. Paul also serves as a director of Voyager Therapeutics, Inc. and SAGE Therapeutics, Inc., and formerly served as a director of the Sigma-Aldrich Corporation (which was acquired by Merck KGaA).

Director since: 2010

Age: 68

Key Contributions to the Board

Dr. Paul brings to our board more than 20 years of management experience in the pharmaceutical industry and 35 years of scientific research experience. He is widely recognized as a leader across many dimensions of medical research and drug development, and this expertise is important to our board as we continue to advance our late stage clinical development pipeline, initiate additional clinical programs and continue to build our global commercial operations following the launch of ONPATTRO in 2018.

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Colleen F. Reitan

Ms. Reitan has served as a member of our board of directors since June 2018.

Committees:

Experience, Expertise and Qualifications

Audit Committee

Ms. Reitan served as President of Plan Operations of Health Care Service Corporation, or HCSC, the largest customer-owned health insurer in the United States and an independent licensee of Blue Cross and Blue Shield Association from October 2008 to April 2018. While at HCSC, she also served as the company's Chief Operating Officer from January 2009 to January 2015. Previously, Ms. Reitan served as President and Chief Operating Officer of Blue Cross Blue Shield of Minnesota from 2006 to 2008.

Director since: 2018

Age: 59

Key Contributions to the Board

Ms. Reitan brings to our board over 30 years of experience in the healthcare payer and reimbursement market, including most recently as President of Plan Operations of HCSC. As we continue to advance our late stage clinical development pipeline and continue to build our global commercial operations following the launch of ONPATTRO in 2018, Ms. Reitan's experience with provider network management, strategic planning and business development will provide valuable insight to our board. Ms. Reitan's extensive background in business management also make her an asset to our audit committee on which she serves.

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Amy W. Schulman

Ms. Schulman has served as a member of our board of directors since July 2014.

Committees:

Compensation
Committee (Chair)

Nominating and
Corporate Governance
Committee

Director since: 2014

Age: 58

Experience, Expertise and Qualifications

Ms. Schulman joined Polaris Partners, a venture capital firm, in August 2014. In July 2015, Ms. Schulman co-founded Lyndra, Inc., where she serves as the Chief Executive Officer and a director. In February 2017, Ms. Schulman became Chief Executive Officer of Olivo Laboratories, LLC and also serves as Executive Chair of SQZ Biotech. Since July 2014, Ms. Schulman has also been a senior lecturer at Harvard Business School. Ms. Schulman served as Chief Executive Officer of Arsia Therapeutics, Inc. from August 2014 to November 2016, when Arsia was acquired by Eagle Pharmaceuticals, Inc. Ms. Schulman was previously the Executive Vice President and General Counsel of Pfizer Inc., a global pharmaceutical company, from May 2008 to July 2014, where she also served as the Business Unit Lead for Pfizer's Consumer Healthcare business from 2012 to 2013. Before joining Pfizer, she was a partner at DLA Piper. Ms. Schulman also serves as a director of Ironwood Pharmaceuticals, Inc. and Arsanis, Inc., and formerly served as a director of Blue Buffalo Pet Products, Inc. and BIND Therapeutics, Inc.

Key Contributions to the Board

Ms. Schulman brings to our board a diverse background that includes legal, operational and commercial expertise. As our business grows and becomes more complex, Ms. Schulman's unique qualifications will enable her to counsel us in a number of critical areas, including commercial strategy and capability building, as well as legal, regulatory and transactional considerations. In addition, her experience at Pfizer as Executive Sponsor of Pfizer's Global Women's Council, where she helped shape efforts to increase diversity and expand opportunities for both women and men across the company, has been an important resource as we continue to grow our workforce to support the advancement of our late stage clinical development pipeline and continue to build our global commercial operations following the launch of ONPATPRO in 2018.

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Class I Directors Whose Terms Expire in 2020

Michael W. Bonney

Chair of the Board

Mr. Bonney has served as a member of our board of directors since December 2014 and was appointed chair of our board in December 2015.

Experience, Expertise and Qualifications

Committees:

Audit Committee

Nominating and Corporate
Governance Committee

Mr. Bonney has served as the Executive Chair of Kaleido Biosciences, a biotechnology company, since June 2017. From June 2017 until August 2018, he also served as Kaleido's Chief Executive Officer. Mr. Bonney was a Partner at Third Rock Ventures, a healthcare venture firm, from January to July 2016. Mr. Bonney previously served as the Chief Executive Officer and a member of the board of directors of Cubist Pharmaceuticals, Inc., a biopharmaceutical company (now a wholly-owned subsidiary of Merck & Co., Inc.), from June 2003 until his retirement in December 2014. From January 2002 to June 2003, he served as Cubist's President and Chief Operating Officer. In addition, Mr. Bonney is the Chair of the board of directors of Magenta Therapeutics, Inc. and serves as a director of Celgene Corporation, Syros Pharmaceuticals, Inc. and Sarepta Therapeutics, Inc. Mr. Bonney formerly served as a director of Global Blood Therapeutics, Inc., NPS Pharmaceuticals, Inc. and Cubist.

Director since: 2014

Age: 60

Key Contributions to the Board

Mr. Bonney possesses over 30 years of operational, commercial and senior management experience in the biopharmaceutical industry, including his long tenure as the Chief Executive Officer and a director of Cubist. Mr. Bonney also has a keen understanding of the interplay between management and the board and is well-versed in the current best practices in corporate governance. His breadth of experience and deep commercial background enable him to make significant contributions as chair of our board as we continue to advance our late stage clinical development pipeline and continue to build our global commercial operations following the launch of ONPATPRO in 2018.

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John M. Maraganore, Ph.D.

Chief Executive Officer

Dr. Maraganore has served as our Chief Executive Officer and as a member of our board of directors since December 2002.

Experience, Expertise and Qualifications

Director since: 2002

Age: 56

Dr. Maraganore also served as our President from December 2002 to December 2007. From April 2000 to December 2002, Dr. Maraganore served as Senior Vice President, Strategic Product Development for Millennium Pharmaceuticals, Inc., a biopharmaceutical company (now a wholly-owned subsidiary of Takeda Pharmaceutical Company Limited). He also serves as a director of Agios Pharmaceuticals, Inc. and Chair of the Biotechnology Industry Organization, a non-profit biotechnology trade organization. Dr. Maraganore formerly served as a director of bluebird bio, Inc. and Regulus Therapeutics Inc.

Key Contributions to the Board

Dr. Maraganore has over 30 years of experience in the biotechnology industry, bringing to our board critical scientific, research and development, and general management expertise. In prior roles, Dr. Maraganore has led the research, development and FDA approval and commercialization of important drug therapies, including Angiomax[®], an anticoagulant for patients undergoing coronary angioplasty procedures, of which Dr. Maraganore was an inventor. As a founder and leader of new businesses, he has developed high-performing organizations and created stockholder value while focusing on leading-edge scientific research. A true visionary, strategist and innovator, Dr. Maraganore's broad experience and personal passion bring an invaluable perspective to our board.

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Paul R. Schimmel, Ph.D.

Dr. Schimmel is a scientific founder of Alnylam and has served as a member of our board of directors since June 2002. As required by our corporate governance guidelines, Dr. Schimmel offered his resignation to the board of directors upon reaching the age of 75. After considering Dr. Schimmel's many contributions to the board of directors and his specialized experience in areas critical to our company, our board of directors determined not to accept Dr. Schimmel's resignation and Dr. Schimmel was re-elected as a director at the 2017 annual meeting of stockholders.

Committees:

Compensation Committee

Science and Technology
Committee

Experience, Expertise and Qualifications

Director since: 2002

Age: 78

Dr. Schimmel has been the Ernest and Jean Hahn Professor of Molecular Medicine and a member of the faculty of the Skaggs Institute for Chemical Biology at the Scripps Research Institute since 1997. Previously, he was John D. and Catherine T. Professor of Biochemistry and Biophysics at the Massachusetts Institute of Technology. Dr. Schimmel is a member of the National Academy of Sciences, the Institute of Medicine, the American Philosophical Society, the National Academy of Inventors, and the American Academy of Arts and Sciences. Dr. Schimmel also serves as a director of aTyr Pharma, Inc. and Tocagen Inc.

Key Contributions to the Board

Dr. Schimmel is a noted academic scholar, and his knowledge and experience offer a critical scientific perspective to our board. Dr. Schimmel has authored or co-authored more than 490 scientific papers, and has been active in many scientific and academic organizations and committees. Having a longstanding interest in the applications of basic biomedical research to human health, Dr. Schimmel holds several patents and is a co-founder or founding director of a number of biotechnology companies, of which seven, including Alnylam, became publicly traded. As one of our scientific founders, Dr. Schimmel's insight and scientific expertise are invaluable assets to our board when evaluating our strategy and unique challenges as one of the first companies focused on the discovery and development of therapeutics based on RNA interference, or RNAi.

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Phillip A. Sharp, Ph.D.

Dr. Sharp is a scientific founder of Alnylam and has served as a member of our board of directors since June 2002.

Committees:

Science and Technology
Committee (Chair)

Director since: 2002

Age: 74

Experience, Expertise and Qualifications

Dr. Sharp is an Institute Professor at the David H. Koch Institute for Integrative Cancer Research, Massachusetts Institute of Technology (MIT), and was the Founding Director of the McGovern Institute for Brain Research at MIT. Dr. Sharp has been a professor at MIT since 1974. He is a member of the National Academy of Sciences, the Institute of Medicine and the American Academy of Arts and Sciences. Dr. Sharp also serves as a director of Syros Pharmaceuticals, Inc. and formerly served as a director of Biogen Inc., which he co-founded in 1978.

Key Contributions to the Board

Dr. Sharp, a leading researcher in molecular biology and biochemistry, brings to our board a fundamental understanding of the core scientific principles of our business. Dr. Sharp received the Nobel Prize for Physiology or Medicine in 1993, received numerous awards and honorary degrees for his scientific work, and served on many advisory boards for the government, academic institutions, scientific societies and companies. Dr. Sharp also has strategic expertise based upon his role as a co-founder and former director of Biogen. As one of our scientific founders, Dr. Sharp's insight and scientific expertise are invaluable assets to our board when evaluating our strategy and unique challenges as one of the first companies focused on the discovery and development of RNAi therapeutics, and he is uniquely qualified to serve as the chair of our science and technology committee.

Class II Directors Whose Terms Expire in 2021

Dennis A. Ausiello, M.D.

Dr. Ausiello has served as a member of our board of directors since April 2012.

Committees:

Nominating and Corporate
Governance Committee

Experience, Expertise and Qualifications

Dr. Ausiello serves as the Director of the Center for Assessment Technology and Continuous Health (CATCH), Jackson Distinguished Professor of Clinical Medicine at Harvard Medical School and Physician-in-Chief Emeritus at Massachusetts General Hospital, and served as the Chief of Medicine at

Science and Technology
Committee

Massachusetts General Hospital from 1996 to April 2013. Dr. Ausiello was the President of the Association of American Physicians in 2006. He is a member of the Institute of Medicine of the National Academy of Sciences and the American Academy of Arts and Sciences. He also serves as a director of Pfizer Inc. and Seres Therapeutics, Inc.

Director since: 2012

Age: 73

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Key Contributions to the Board

Dr. Ausiello's experience as a practicing physician, a scientist and a nationally recognized leader in academic medicine enable him to bring valuable insights to our board, particularly as we advance our late stage clinical development pipeline, initiate additional clinical trials and continue to build our global commercial operations following the launch of ONPATTRO in 2018. In addition, Dr. Ausiello oversaw a large research portfolio and an extensive research and education budget at Massachusetts General Hospital for nearly 20 years, giving him a valuable perspective on drug discovery and development. Through his previous work as the Chief of Medicine at Massachusetts General Hospital, Dr. Ausiello also brings leadership, oversight and finance experience to our board.

Marsha H. Fanucci

Ms. Fanucci has served as a member of our board of directors since December 2010.

Committees:

Audit Committee
(Chair)

Nominating and Corporate
Governance Committee

Director since: 2010

Age: 65

Experience, Expertise and Qualifications

Ms. Fanucci served as Senior Vice President and Chief Financial Officer of Millennium Pharmaceuticals, Inc., a biopharmaceutical company (now a wholly-owned subsidiary of Takeda Pharmaceutical Company Limited), from July 2004 to January 2009. While at Millennium, she also served as Vice President, Finance and Corporate Strategy from July 2003 to June 2004, and prior to that as Vice President of Corporate Development from 2000. Prior to joining Millennium, Ms. Fanucci served as Vice President of Corporate Development and Strategy at Genzyme Corporation, a biotechnology company (now Sanofi Genzyme, the specialty care global business unit of Sanofi), from 1998 to 2000. Ms. Fanucci also serves as a director of Ironwood Pharmaceuticals, Inc. and Syros Pharmaceuticals, Inc., and formerly served as a director of Momenta Pharmaceuticals, Inc.

Key Contributions to the Board

Ms. Fanucci has substantial expertise with respect to public company and financial accounting matters, including over 25 years of leadership and consulting experience in biotechnology and healthcare companies. Her leadership in the areas of corporate strategy, financial planning and reporting, and operations, are an asset to our board, and in particular, as the chair of our audit committee, as we continue to grow our company, advance our late stage clinical development pipeline, continue to build our global commercial operations following the launch of ONPATTRO in 2018 and

partner additional programs and technologies.

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David E.I. Pyott

Mr. Pyott has served as a member of our board of directors since December 2015.

Committees:

Nominating and Corporate Governance Committee (Chair)

Experience, Expertise and Qualifications

Mr. Pyott served as the Chief Executive Officer of Allergan, Inc., a global specialty pharmaceutical and medical device company, from January 1998 to March 2015 and as the Chair of Allergan's board of directors from March 2001 until March 2015. Prior to Allergan, Mr. Pyott served as the Head of the Novartis Nutrition Division and as a member of the Executive Committee of Switzerland-based Novartis AG. Mr. Pyott also serves as the lead independent director at Avery Dennison Corporation, a director of BioMarin Pharmaceutical Inc. and a member of the Supervisory Board of Royal Philips in the Netherlands. Mr. Pyott formerly served as a director of Edwards Lifesciences Corporation.

Director since: 2015

Age: 65

Key Contributions to the Board

Mr. Pyott possesses over 30 years of operational, commercial and senior management experience, including his successful tenure as the Chief Executive Officer and Chair of Allergan's board of directors, where he transformed the company from a small eye care business to a global specialty pharmaceutical and medical device company. His in-depth knowledge of pharmaceutical growth and commercial expansion, combined with his entrepreneurial leadership experience in the healthcare industry, position him well to serve as a member of our board and make significant contributions as we continue to advance our late stage clinical development pipeline and continue to build our global commercial operations following the launch of ONPATTRO in 2018. Mr. Pyott's substantial public company governance experience from serving on the boards of several large public companies also makes him an asset to our board and to our nominating and corporate governance committee, which he chairs.

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THE BOARD OF DIRECTORS AND ITS COMMITTEES

Board of Directors Meetings and Attendance

Our board met eight times during 2018 either in person or by teleconference. During 2018, each of our directors attended at least 75% of the aggregate number of board meetings and meetings of the committees on which he or she then served, with the exception of Drs. Paul and Sharp, who each attended a majority of the meetings of our board of directors and meetings of the committees on which they served. The absences of Drs. Paul and Sharp were due to other commitments that were pre-existing at the time the Alnylam meetings were scheduled.

Our directors are expected to participate in the virtual annual meeting of stockholders, unless they have a conflict that cannot be resolved. All but two of our then-current directors attended the 2018 annual meeting of stockholders.

Board Determination of Independence

Under the Nasdaq Marketplace Rules, a director will qualify as an independent director if, in the opinion of our board, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. Our board has determined that none of Ms. Fanucci, Reitan and Schulman, Drs. Ausiello, Hamburg, Paul, Schimmel and Sharp, and Messrs. Bonney and Pyott have a relationship which would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is an independent director as defined under Nasdaq Rule 5605(a)(2). Furthermore, our board of directors has determined that each member of our audit committee, compensation committee and nominating and corporate governance committee is independent within the meaning of the applicable director independence standards of the Nasdaq Global Select Market and the Exchange Act. In making such determination, our board considered relationships, if any, that each non-employee director or family member of such director has with Alnylam, their beneficial ownership of our outstanding common stock and other facts and circumstances our board deemed relevant in determining their independence.

Role of the Board

Our business is managed under the direction of the board of directors. Management has primary responsibility for the day-to-day operations and affairs of our company and the role of our board is to provide independent oversight of management. In its oversight role, our board, as a whole and through its committees, is responsible for establishing broad corporate policies and reviewing our overall performance. Our board selects and provides for the succession of executive officers and, subject to stockholder election, directors. Our board also evaluates the performance of our chief executive officer. It reviews and approves corporate objectives, strategies and annual investment plans, and evaluates significant policies and proposed major commitments of corporate resources. Our board also participates in decisions that have a potential major economic impact on our company. Management keeps our directors informed of company activity through regular

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communication, including written reports and presentations at board of directors and committee meetings, as well as through regular informal updates between meetings with all or a subset of board members.

The Board's Role in Risk Oversight

We face a number of risks in our business, including risks related to: pre-clinical and clinical research and development; manufacturing and clinical and commercial drug supply; regulatory reviews, approvals, policies and oversight; global growth and capability expansion; preparations for and execution of commercial operations; our ability to obtain reimbursement for approved drugs and the drugs we are developing if, and when, they gain regulatory approval; intellectual property filings, prosecution, maintenance and challenges; the establishment and maintenance of strategic alliances; competition; litigation and government investigations; and the ability to access additional funding for our business; as well as other risks. Our management is responsible for the day-to-day management of the risks that we face, while our board of directors, as a whole and through its committees, has responsibility for the oversight of risk management.

Our board administers its risk oversight function directly and through its four committees. Our chair meets regularly with our chief executive officer and other executive officers to discuss strategy and risks facing the company. Our chair and the chair of our nominating and corporate governance committee also meet with our global head of ethics and compliance to discuss the risks facing our business and our global compliance initiatives. Members of senior management attend the quarterly board meetings and are available to address any questions or concerns raised by our board on risk management-related and any other matters. Each quarter, our board of directors receives presentations from members of senior management on strategic matters involving our business. Annually, our board reviews and discusses with management an enterprise risk assessment focused on the key risks facing our business. In addition, as part of its charter, the audit committee regularly discusses with management our risk exposures in the areas of financial reporting, internal controls and compliance with legal and regulatory requirements with potential impact on our financial statements, and the steps we take to manage them. The compensation committee assists our board in fulfilling its oversight responsibilities with respect to the management of risks arising from our compensation policies and programs and succession planning for our executive officers, and evaluates potential risks associated with independent director compensation for consideration by the full board. The nominating and corporate governance committee assists our board in fulfilling its oversight responsibilities with respect to the management of risks associated with board organization, membership and structure, succession planning for our directors, corporate governance, cybersecurity and our compliance programs with respect to non-financial compliance matters, including commercial compliance, and quality programs, and our global head of ethics and compliance, our chief information officer and our head of quality provide the committee with regular updates. The science and technology committee reviews and advises our board regarding risks arising from our discovery and development strategy and programs.

Board Leadership Structure

Our board has determined that the roles of chief executive officer and chair of our board of directors should be separated at the current time. Mr. Bonney, an independent director, has served as our chair since December 2015. Prior to that time, Mr. Clarke, a co-founder of Alnylam and former independent director, served as our chair from the founding of Alnylam in 2002. Dr. Maraganore has

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served as our chief executive officer and a director since 2002. Separating these positions allows our chief executive officer to focus on our day-to-day business operations, while allowing the chair to lead the board in its fundamental role of providing advice to and independent oversight of management. The board recognizes the time, effort and energy that the chief executive officer is required to devote to his position in the current business environment, as well as the commitment required to serve as our chair, particularly as the board's oversight responsibilities continue to grow. While our bylaws and corporate governance guidelines do not require that our chair and chief executive officer positions be separate, our board believes that our current leadership structure is appropriate because it provides an effective balance between strategy development and independent leadership and management oversight.

Board Committees

Our board of directors has established four standing committees—audit, compensation, nominating and corporate governance, and science and technology—each of which operates under a written charter that has been approved by our board. We have posted copies of each committee's charter on the Corporate Governance page of the Investors section of our website, www.alnylam.com. The members of each committee are appointed by our board, upon the recommendation of our nominating and corporate governance committee.

Our board has determined that all of the members of each of the audit, compensation, and nominating and corporate governance committees are independent as defined under the Nasdaq Marketplace Rules, and, in the case of all members of our audit committee, the independence requirements of Rule 10A-3(b)(1) under the Exchange Act. Committee memberships as of March 1, 2019 are shown in the table below:

Audit Committee	Compensation Committee	Nominating and Corporate Governance Committee	Science and Technology Committee
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Dennis A. Ausiello, M.D.

Michael W. Bonney

Marsha H. Fanucci

Margaret A. Hamburg, M.D.

John M. Maraganore, Ph.D.

Steven M. Paul, M.D.

David E.I. Pyott

Colleen F. Reitan

Paul R. Schimmel, Ph.D.

Amy W. Schulman

Phillip A. Sharp, Ph.D.

Chair of Board Committee Chair Member

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Audit Committee

As described more fully in its charter, the audit committee oversees our accounting and financial reporting processes, internal controls and audit functions. In fulfilling its role, our audit committee is responsible for, among other things:

appointing, evaluating, retaining, approving the compensation of and, when necessary, terminating the engagement of our independent auditors;

taking appropriate action, or recommending that our board of directors take appropriate action, to oversee the independence of our independent auditors;

reviewing and discussing with management and the independent auditors our annual and quarterly financial statements and related disclosures, including earnings releases and financial guidance;

monitoring our internal control over financial reporting, disclosure controls and procedures, and compliance with financial corporate securities, tax and similar regulatory or legal requirements relating to financial matters;

reviewing and discussing our financial risk management policies, including but not limited to our investment policy;

reviewing and approving matters related to tax planning;

establishing policies regarding hiring employees from our independent auditors and procedures for the receipt and retention of accounting-related complaints and concerns;

meeting independently with our independent auditors and management; and

preparing the annual audit committee report required by SEC rules, which is included below under the heading **Report of the Audit Committee**.

In addition, our audit committee must approve or ratify any related person transaction entered into by us. Our policies and procedures for the review and approval of related person transactions are summarized under the heading **Policies and Procedures for Related Person Transactions**, which appears below.

The current members of our audit committee are Ms. Fanucci (Chair) and Mr. Bonney. Mr. Starr resigned from our board and as the chair of our audit committee effective March 31, 2018, at which time Ms. Fanucci was appointed as chair and Mr. Bonney was again appointed as a member of the committee. In October 2018, Mr. Clarke resigned from our board, effective January 10, 2019, at which time Ms. Reitan was appointed as a member

of the committee. We believe that each member of our audit committee satisfies the requirements for membership, including independence, under the Nasdaq Marketplace Rules and Rule 10A-3(b)(1) under the Exchange Act. Our board has determined that each of Ms. Fanucci and Mr. Bonney is an audit committee financial expert as defined in Item 407(d)(5) of Regulation S-K. No member of our audit committee is the beneficial owner of more than 10% of our common stock.

Our audit committee met seven times during 2018, either in person or by teleconference.

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Compensation Committee

Our compensation committee's responsibilities include, among other things:

annually reviewing and making recommendations to our board with respect to corporate goals and objectives relevant to the compensation of our executive officers;

reviewing and approving, or making recommendations to our board with respect to, the compensation of our chief executive officer and other executive officers;

overseeing an evaluation of our senior executives;

reviewing and making recommendations to our board with respect to management succession planning;

overseeing and administering our stock-based compensation plans and 401(k) plan, and performing the duties imposed on the compensation committee by the terms of those plans;

reviewing and making recommendations to our board with respect to director compensation;

reviewing, and amending as necessary, our compensation philosophy and objectives, and reviewing annually and updating our peer group for compensation purposes;

reviewing and discussing any potential risks that could arise from our compensation policies and programs;

reviewing and discussing annually with management our Compensation Discussion and Analysis, which is included beginning on page 45 of this proxy statement;

preparing the annual compensation committee report required by SEC rules, which is included immediately following the Compensation Discussion and Analysis section appearing below;

reviewing the results of any say-on-pay votes and considering whether to make or recommend adjustments to the executive compensation policies as a result of such votes; and

overseeing engagement with stockholders and proxy advisory firms on executive compensation matters.

The processes and procedures followed by our compensation committee in considering and determining executive compensation are described below under the heading Compensation Discussion and Analysis.

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The current members of our compensation committee are Ms. Schulman (Chair) and Drs. Paul and Schimmel. Mr. Starr resigned from our board and as a member of our compensation committee effective March 31, 2018, at which time Dr. Paul was again appointed as a member of the committee. We believe that each member of our compensation committee is an independent director within the meaning of the director independence standards of the Nasdaq Marketplace Rules, a non-employee director as defined in Rule 16b-3 of the Exchange Act, and an outside director pursuant to Section 162(m) of the Internal Revenue Code of 1986, as amended, also referred to as the Code.

Our compensation committee met four times during 2018, either in person or by teleconference.

Compensation Committee Interlocks and Insider Participation

During fiscal year 2018, none of the members of our compensation committee was a current or former officer or employee of Alnylam and none had any related person transaction involving Alnylam.

During fiscal year 2018, no executive officer of our company served as: (i) a member of the compensation committee (or other committee of the board of directors performing equivalent functions or, in the absence of any such committee, the entire board of directors) of another entity, one of whose executive officers served on our compensation committee; (ii) a director of another entity, one of whose executive officers served on our compensation committee; or (iii) a member of the compensation committee (or other committee of the board of directors performing equivalent functions or, in the absence of any such committee, the entire board of directors) of another entity, one of whose executive officers served as a director of our company.

Risk Considerations in Executive Compensation

Our compensation committee has discussed the concept of risk as it relates to our executive compensation program and our compensation committee does not believe our executive compensation program encourages excessive or inappropriate risk taking. As described more fully below in Compensation Discussion and Analysis, we structure our pay to consist of both fixed and variable compensation to motivate our executives to produce superior short-and long-term results that are in the best interests of our company and stockholders in order to attain our ultimate objective of increasing stockholder value. We have established, and our compensation committee endorses, several controls to address and mitigate compensation-related risk.

We engaged our outside consultant, Radford, to assist the compensation committee in evaluating whether our policies and practices create excessive risk in our compensation programs. In conducting its independent assessment, Radford reviewed all of our incentive compensation and other programs and determined there were no compensation policies or practices that encourage excessive or inappropriate risk-taking. Radford discussed the detailed findings of this review with management and the chair of the compensation committee in February 2017, and management presented the results of the review to the compensation committee. As a result, the compensation committee concluded that our compensation policies and practices are not reasonably likely to have a material adverse effect on our company. The compensation committee intends to continue to evaluate on an ongoing basis the potential risks associated with our compensation policies and practices, and has engaged Radford to conduct an updated assessment of our compensation policies.

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and practices during 2019. As a result of the successful approval and launch of our first commercial product in 2018, this evaluation will include the potential risks associated with field-based incentive compensation and commercial-related goals and targets, as well as any other changes to our compensation policies and practices since the last assessment was conducted.

Nominating and Corporate Governance Committee

Our nominating and corporate governance committee is responsible for, among other things:

advising our board on board organization, structure and appropriate size;

identifying individuals qualified to become members of our board and evaluating candidates recommended by stockholders for election to our board and stockholder proposals submitted for inclusion in our proxy materials;

recommending to our board the persons to be nominated for election as directors and the persons to be appointed to each of our board committees;

reviewing the external commitments of our directors and executive officers to evaluate potential conflicts of interest or time commitment concerns;

developing and recommending to our board a set of corporate governance principles and making recommendations to our board regarding corporate governance matters;

overseeing the annual evaluation of our board and its committees;

overseeing management's implementation of information technology policies;

monitoring the risks associated with information systems, including reviewing and discussing with management the programs used to identify, assess, manage and monitor cybersecurity risks; and

overseeing management's implementation of compliance programs with respect to non-financial matters and our quality programs.

As noted above, the nominating and corporate governance committee facilitates the annual board self-evaluation to determine whether our board of directors and its committees are functioning effectively. The nominating and corporate governance committee determines the nature of the evaluation, supervises the conduct of the evaluation, and prepares an assessment of our board performance, to be discussed with the full board of directors. The evaluation is aligned to board best practices and focuses on four key areas: board structure and composition; board process and

focus; committee structure and performance; and culture and overall health.

The processes and procedures followed by our nominating and corporate governance committee in identifying and evaluating director candidates are described below under the heading Director Nomination Process.

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The current members of our nominating and corporate governance committee are Mr. Pyott (Chair), Dr. Ausiello, Mr. Bonney, and Mses. Fanucci and Schulman. We believe that each member of our nominating and corporate governance committee satisfies the requirements for membership, including independence, as established under the Nasdaq Marketplace Rules.

Our nominating and corporate governance committee met four times during 2018,
either in person or by teleconference.

Science and Technology Committee

Our science and technology committee is responsible for, among other things:

overseeing our scientific advisory board;

reviewing our overall scientific and research and development strategy;

reviewing our research and development strategy and programs; and

reviewing our regulatory and quality programs.

The current members of our science and technology committee are Drs. Sharp (Chair), Ausiello, Paul and Schimmel. Mr. Clarke resigned from our board and as a member of our science and technology committee effective January 10, 2019.

Our science and technology committee met three times during 2018,
either in person or by teleconference.

Director Nomination Process

Our nominating and corporate governance committee is responsible for identifying individuals qualified to become directors, consistent with criteria approved by our board, and recommending the persons to be nominated for election as directors.

The process followed by our nominating and corporate governance committee to identify and evaluate director candidates includes requests to board members and others for recommendations, engagement of third-party recruiting companies focused on identifying top-tier director candidates, meetings from time to time to evaluate biographical information and background material relating to potential candidates, and interviews of selected candidates by members of the committee and our board.

Criteria and Diversity

Our corporate governance guidelines specify that diversity on our board of directors should be considered by the nominating and corporate governance committee in the director identification and nomination process. In considering whether to recommend any particular candidate for inclusion in our board's slate of recommended director nominees, our nominating and corporate governance committee will apply the following criteria that it believes must be met by all directors:

a reputation for integrity, honesty and adherence to high ethical standards;

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a demonstration of business acumen, experience and the ability to exercise sound judgment in matters that relate to the current and long-term objectives of our company and a willingness and ability to contribute positively to the decision-making process of our company;

a commitment to understand our company and the industry and to regularly attend and participate in meetings of our board of directors and its committees;

an interest in and ability to understand the sometimes conflicting interests of the various constituencies of our company, which include stockholders, employees, customers, governmental bodies and the general public, and to act in the interests of all stockholders;

no actual or apparent conflict of interest (as determined by the nominating and corporate governance committee or the board) that would impair the director's ability to represent the interests of all of our company's stockholders and to fulfill the responsibilities of a director; and

the ability to serve for at least five years before reaching the age of 75.

While our nominating and corporate governance committee does not have a formal policy with respect to diversity, our board and nominating and corporate governance committee believe that it is essential that our board members represent diverse viewpoints with broad experience in areas important to the operation of our company such as business, science, medicine, and finance and accounting. The committee does not assign specific weights to particular criteria and no particular criterion is a prerequisite for each prospective nominee. We believe that the backgrounds and qualifications of our directors, considered as a group, should provide a composite mix of experience, knowledge and abilities that will allow our board to promote our strategic objectives and fulfill its responsibilities to our stockholders. In this context, the nominating and corporate governance committee, in addition to the qualifications set forth above, also considers a variety of attributes in selecting nominees to our board, such as:

an understanding of, and experience in, the biotechnology and pharmaceutical industries, and the regulatory landscape in which such companies operate;

an understanding of, and experience in, accounting oversight and governance, finance, sales and marketing, and complex business transactions;

leadership experience with public companies or other significant organizations;

international experience; and

diversity of age, gender, race and national origin, education, professional experience and differences in viewpoints and skills.

These factors and others are considered useful by our board of directors and are reviewed in the context of an assessment of the perceived needs of our board at a particular point in time.

The director nominee biographies appearing above under the heading Information Concerning Director Nominees Election of Class III Directors (Proposal 1) indicate each nominee's

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experience, qualifications, attributes and skills that led our nominating and corporate governance committee and board to conclude that he or she should continue to serve as a member of our board. Our nominating and corporate governance committee and board believe that each of the nominees has had substantial achievement in his or her professional and personal pursuits, and possesses the background, talents and experience that our board desires and that will contribute to the best interests of our company and to long-term stockholder value.

Below we highlight the composition of our continuing directors and our director nominees:

Stockholder Nominations

Stockholders may recommend individuals to our nominating and corporate governance committee for consideration as potential director candidates by submitting their names, together with appropriate biographical information and background materials and, if the stockholder is not a stockholder of record, a statement as to whether the stockholder or group of stockholders making the recommendation has beneficially owned more than 5% of our common stock for at least a year as of the date such recommendation is made, to the Nominating and Corporate Governance Committee, c/o Corporate Secretary, Alnylam Pharmaceuticals, Inc., 300 Third Street, Cambridge, Massachusetts 02142. Assuming that appropriate biographical and background material has been provided on a timely basis, the committee will evaluate stockholder-recommended candidates by following substantially the same process, and applying substantially the same criteria, as it follows for candidates submitted by others. Stockholders also have the right under our bylaws to nominate director candidates directly, without any action or recommendation on the part of the committee or our board of directors, by following the procedures set forth below under the heading **Stockholder Proposals**.

At the annual meeting, stockholders will be asked to consider the election of Drs. Hamburg and Paul and Mses. Reitan and Schulman, each of whom currently serves on our board of directors. Drs. Hamburg and Paul and Mses. Reitan and Schulman were proposed to our board by our nominating and corporate governance committee and our board determined to include them as its nominees.

Majority Voting Policy

Our bylaws provide that the vote required for the election of a director by the stockholders shall, except in a contested election, be the affirmative vote of a majority of the votes cast with respect to the election of such director nominee at a meeting of stockholders. In order to receive a majority of the votes cast, the number of shares voted **FOR** must exceed the number of votes **AGAINST**. In any non-contested election of directors, any incumbent director nominee who receives a greater number of votes cast against his or her election than in favor of his or her election shall, promptly following the certification of the stockholder vote, tender his or her resignation to the

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board. The board shall then decide, through a process managed by our nominating and corporate governance committee, whether to accept the resignation, or take other action. The board expects that a director whose resignation is under consideration shall abstain from participating in any decision regarding his or her resignation. In reaching its decision, the board may consider any factors deemed relevant, including the incumbent director nominee's qualifications, the incumbent director nominee's past and expected future contributions to the company, the overall composition of the board, and whether accepting the tendered resignation would cause us to fail to meet any applicable rule or regulation (including Nasdaq Global Select Market listing standards and federal securities laws). The board will publicly disclose its decision and rationale, within 90 days following certification of the stockholder vote. If an incumbent director nominee's resignation is not accepted, he or she will continue to hold office until the next annual meeting and until his or her successor shall be duly elected and qualified. In such circumstances, the director will remain in his or her existing class and the election held at the next such annual meeting shall be whether to elect him or her to serve the remainder of his or her three-year term.

Stockholder Engagement and Communications with the Independent Directors

We regularly engage with our stockholders through open dialogue and direct individual communication to solicit their feedback on our executive compensation, corporate governance and disclosure practices in order to gain a better understanding of the practices they most value. Stockholder feedback is important, and the information we glean from these engagements is highly valued. Our stockholder engagement team has consisted of certain independent directors and members of our legal, investor relations and human resources expertise areas. Stockholders also regularly meet with members of our senior management team to discuss our strategy and review our business, goals and performance.

In addition, our board of directors will give appropriate attention to written communications that are submitted by stockholders, and will respond if and as appropriate. The chair of our board (if an independent director), the lead director (if one is appointed), or otherwise the chair of our nominating and corporate governance committee, is primarily responsible for monitoring communications from stockholders and for providing copies or summaries to the other directors as he or she considers appropriate.

Communications are forwarded to all directors if they relate to important substantive matters and include suggestions or comments that the chair of our board (if an independent director), or the lead director (if one is appointed), or otherwise the chair of our nominating and corporate governance committee, considers to be important for the directors to know. In general, communications relating to corporate governance and long-term corporate strategy are more likely to be forwarded than communications relating to ordinary business affairs, personal grievances and matters as to which we tend to receive repetitive communications.

Stockholders who wish to send communications on any topic to our board should address such communications to the Board of Directors, c/o Corporate Secretary, Alnylam Pharmaceuticals, Inc., 300 Third Street, Cambridge, Massachusetts 02142.

Table of Contents**DIRECTOR COMPENSATION****Compensation of Directors**

We compensate our non-employee directors for their service as directors. We do not pay directors who are also our employees any additional compensation for their service as a director. Accordingly, Dr. Maraganore does not receive any additional compensation for his service as a director.

Our compensation committee periodically reviews the compensation we pay our non-employee directors, with input from its independent compensation consultants. Our compensation committee compares our board compensation to compensation paid to non-employee directors of our peer group companies. Our compensation committee also considers the responsibilities we ask of our board members along with the amount of time required to perform those responsibilities. During 2017, our compensation committee, with the assistance of its independent compensation consultants, performed a comprehensive review of director compensation. Following this review, in March 2018, the compensation committee and our board of directors determined to adjust certain elements of the cash compensation paid to our non-employee directors, including the fees for our audit and compensation committee chairs and our compensation committee members, to be more competitive with our peer group. In addition, based on the results of this review and the significant increase in our stock price over 2017, as well as the continuing evaluation and management of our equity compensation strategy across the organization to manage our equity utilization during a period of rapid growth, the compensation committee and our board of directors determined to reduce the initial and annual stock option awards for non-employee directors.

The table below reflects the non-employee director compensation that was in effect through March 2018 as well as the changes (in italics) to non-employee director compensation that were approved in March 2018, and were effective as of April 1, 2018. Increases in fees were pro-rated for 2018 based upon the date of approval and each non-employee director's committee appointments, if applicable.

Compensation Type	Compensation Amount	Compensation Amount
	Before April 1, 2018	as of April 1, 2018
Annual Retainer	\$50,000	\$50,000
Board Chair Fee	\$30,000	\$30,000
Committee Chair Fees:		
Audit	\$15,000	<i>\$25,000</i>
Compensation	\$10,000	<i>\$20,000</i>
Nominating and Corporate Governance	\$10,000	\$10,000
Science and Technology	\$10,000	\$10,000
Committee Member Fees:		
Audit	\$10,000	\$10,000
Compensation	\$7,500	<i>\$10,000</i>
Nominating and Corporate Governance	\$5,000	\$5,000

Science and Technology	\$5,000	\$5,000
Initial Stock Option Award (vests ratably in three annual installments)	25,000 shares	<i>18,000 shares</i>
Annual Stock Option Award (vests on one-year anniversary)*	11,250 shares	<i>9,000 shares</i>
* Each non-employee director is generally eligible for an annual stock option award beginning in the sixth month following his or her election to our board.		

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Our board may, in its discretion, increase or decrease the size of the stock option award made to a non-employee director upon election or in connection with the annual stock option award or make other option awards to our non-employee directors, subject to the current limitations contained in our 2018 Plan. The exercise price of stock option awards is the fair market value of our common stock on the date of grant. We also reimburse our directors for reasonable travel and other related expenses incurred in connection with their service on our board.

In March 2016, based on the recommendation of our compensation committee, our board determined that it was in the best interests of the company and its stockholders to add a limit on the maximum number of shares of common stock that may be subject to initial or annual awards granted to non-employee directors in our stock incentive plan. In March 2018, in connection with the reduction in initial and annual stock option awards, our board of directors approved a reduction to these maximum limits. Accordingly, in 2018, our stockholders approved new limits in connection with their approval of the 2018 Plan. Specifically, in addition to the aggregate limit on grants to non-employee directors contained in the 2018 Plan, the 2018 Plan includes the following limits on initial and annual awards which were effective as of April 1, 2018:

the maximum number of shares of common stock subject to an award of stock options granted in connection with an individual non-employee director's initial appointment or election to the board shall be 36,000 (or 24,000 in the case of restricted stock or other full value awards); and

the maximum number of shares of common stock subject to an award of stock options granted in connection with an individual non-employee director's annual service on the board during any calendar year shall be 18,000 (or 12,000 in the case of restricted stock or other full value awards).

As indicated in the table above, our current practice is to make stock option awards covering fewer shares of common stock than permitted by these limits.

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The following table sets forth information concerning the compensation of our non-employee directors in 2018.

Director Compensation

Name	Fees Earned or Paid in Cash	Option Awards	All Other Compensation	Total
	(\$)	\$(4)(5)(6)	(\$)	(\$)
Dennis A. Ausiello, M.D.	60,000	612,423		672,423
Michael W. Bonney	92,500	612,423		704,923
John K. Clarke(1)	65,000	875,803		940,803
Marsha H. Fanucci	76,250	612,423		688,673
Steven M. Paul, M.D.	62,500	612,423		674,923
David E.I. Pyott	60,000	612,423		672,423
Colleen F. Reitan(2)	29,167	1,171,201		1,200,368
Paul R. Schimmel, Ph.D.	64,375	612,423		676,798
Amy W. Schulman	72,500	612,423		684,923
Phillip A. Sharp, Ph.D.	60,000	612,423	25,000(7)	697,423
Kevin P. Starr(3)	18,125			18,125

- (1) Mr. Clarke resigned from our board of directors, effective January 10, 2019.
- (2) Ms. Reitan was elected to our board of directors, effective June 1, 2018.
- (3) Mr. Starr resigned from our board of directors, effective March 31, 2018.
- (4) The amounts in this column reflect the aggregate grant date fair value for the fiscal year ended December 31, 2018, in accordance with Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Topic 718, of stock options granted under our equity plans for service on our board and treated for accounting purposes as employee awards. There can be no assurance that these amounts will ever be realized. Whether, and to what extent, a non-employee director realizes value will depend on our actual operating performance, stock price fluctuations and the non-employee director's continued service on our board. The assumptions we used to calculate these amounts are included in Note 11 to our audited consolidated financial statements for the fiscal year ended December 31, 2018 included in our Annual Report on Form 10-K, filed with the SEC on February 14, 2019. The amount for Mr. Clarke also reflects the modification date value of \$263,380 for his June 20, 2018 option grant that vested on January 10, 2019 as a result of a modification in December 2018. Please refer to Note 5(a) for additional information. Under the applicable accounting guidance, compensation cost to be recognized for a stock option grant that vests only as a result of a modification is based on the modification date value instead of the grant date fair value.

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- (5) At December 31, 2018, our non-employee directors held the following aggregate number of shares under outstanding stock options (representing unexercised option awards both exercisable and unexercisable):

Director Outstanding Stock Options for Service

Name	Number of Shares	
	Underlying	Outstanding
	Number of Shares Underlying Outstanding Stock Options for Board Service(#)	Stock Options for Non-Board Service(#)
Dennis A. Ausiello, M.D.	42,750	
Michael W. Bonney	72,750	
John K. Clarke(a)	132,750	
Marsha H. Fanucci	132,750	
Steven M. Paul, M.D.	136,138	
David E.I. Pyott	56,500	
Colleen F. Reitan	18,000	
Paul R. Schimmel, Ph.D.	42,750	
Amy W. Schulman	72,750	
Phillip A. Sharp, Ph.D.	196,420	30,000(c)
Kevin P. Starr(b)	101,170	

- (a) In connection with Mr. Clarke's resignation and in recognition of his 16 years of service on our board, on December 22, 2018, our compensation committee approved the acceleration of vesting, effective January 10, 2019, of Mr. Clarke's 2018 annual non-employee director stock option to purchase 9,000 shares of common stock, at an exercise price of \$105.26 per share, which stock option was due to vest in full on June 20, 2019. Mr. Clarke has the lesser of five years and the remainder of the stock option term following the effective date of his resignation to exercise any vested stock options, after which time all such outstanding stock options will be cancelled.
- (b) Upon Mr. Starr's resignation from our board in March 2018, all unvested stock options were cancelled. Mr. Starr has the lesser of five years and the remainder of the stock option term following the effective date of his resignation to exercise any vested stock options, after which time all such outstanding stock options will be cancelled.
- (c) Dr. Sharp received these stock options in 2009 and 2010 in connection with his service on our scientific advisory board.
- (6) The number of shares underlying stock options granted to our non-employee directors for their service on our

board during 2018 and the grant date fair value of such stock options are as follows:

Director Grants

Name	Date of Grant	Number of Shares Underlying Stock Option Grants in 2018(#)	Grant Date Fair Value
			of Stock Option Grants in 2018 (\$)(d)
Dennis A. Ausiello, M.D.	06/20/2018	9,000	612,423
Michael W. Bonney	06/20/2018	9,000	612,423
John K. Clarke(a)	06/20/2018	9,000	612,423
Marsha H. Fanucci	06/20/2018	9,000	612,423
Steven M. Paul, M.D.	06/20/2018	9,000	612,423
David E.I. Pyott	06/20/2018	9,000	612,423
Colleen F. Reitan(b)	06/01/2018	18,000	1,171,201
Paul R. Schimmel, Ph.D.	06/20/2018	9,000	612,423
Amy W. Schulman	06/20/2018	9,000	612,423
Phillip A. Sharp, Ph.D.	06/20/2018	9,000	612,423
Kevin P. Starr(c)			

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- (a) In connection with Mr. Clarke's resignation from our board in January 2019 and in recognition of his 16 years of service on our board, our compensation committee approved the acceleration of vesting of this award, effective January 10, 2019.
- (b) Ms. Reitan was granted a stock option award upon the effective date of her election to our board.
- (c) Mr. Starr resigned from our board in March 2018, and accordingly, he did not receive a stock option award in 2018.
- (d) The grant date fair value computed in accordance with FASB ASC Topic 718 represents the value of stock options granted during 2018. The grant date fair value per option was \$68.05, with the exception of the grant to Ms. Reitan, for which the grant date fair value per option was \$65.07. There can be no assurance that the grant date fair value computed in accordance with FASB ASC Topic 718 will ever be realized. Whether, and to what extent, a non-employee director realizes value will depend on our actual operating performance, stock price fluctuations and the non-employee director's continued service on our board. The exercise price for the June 1, 2018 and June 20, 2018 grants is \$100.65 and \$105.26, respectively.
- (7) This amount reflects compensation paid to Dr. Sharp for service as the chair of our scientific advisory board during 2018.

Table of Contents**SECURITIES OWNERSHIP****OWNERSHIP OF OUR COMMON STOCK**

The following table sets forth information regarding beneficial ownership of our common stock as of January 31, 2019, except as otherwise set forth in the footnotes below, by:

- each person, or group of affiliated persons, known to us to be the beneficial owner of more than 5% of the outstanding shares of our common stock;
- each of our directors and director nominees;
- our principal executive officer, our principal financial officer and our three other most highly compensated executive officers who were serving as executive officers on December 31, 2018, whom, collectively, we refer to as our named executive officers, or NEOs; and
- all of our current directors and current executive officers as a group.

The number of shares of common stock beneficially owned by each person or entity is determined in accordance with the applicable rules of the SEC and includes voting or investment power with respect to shares of our common stock. The information is not necessarily indicative of beneficial ownership for any other purpose. Unless otherwise indicated, to our knowledge, all persons named in the table have sole voting and investment power with respect to their shares of common stock, except to the extent authority is shared by spouses under community property laws. The inclusion herein of any shares as beneficially owned does not constitute an admission of beneficial ownership of those shares by the person listed in the table.

Name and Address of Beneficial Owner(1)	Number of Shares Owned(2)	Number of Shares Acquirable Within 60 Days(3)(4)		Total Beneficial Ownership(5)	Percentage of Common Stock Beneficially Owned(6)(7)
		+	=		
Holders of more than 5% of our common stock					
FMR LLC(4)	15,154,553			15,154,553	14.3
Wellington Management Group LLP(5)	14,066,227			14,066,227	13.2
Sanofi(6)	10,554,134			10,554,134	9.9
Vanguard Specialized Funds Vanguard Health Care Fund(7)	9,095,550			9,095,550	8.6
The Vanguard Group(8)	8,219,334			8,219,334	7.7
BlackRock, Inc.(9)	6,145,805			6,145,805	5.8

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					Percentage	
		Number of			Total	Common
Name and Address of	Number of	Acquirable			Beneficial	Stock
Beneficial Owner(1)	Shares Owned(#)	+	60 Days(#)(2)	=	Ownership(#)	Owned(%) (3)
Directors and Named Executive Officers						
Dennis A. Ausiello, M.D.	3,500(10)		33,750		37,250	*
Michael W. Bonney	4,000(11)		63,750		67,750	*
Marsha H. Fanucci			123,750		123,750	*
Margaret A. Hamburg, M.D.**						*
John M. Maraganore, Ph.D.	193,031(12)		1,043,191		1,236,222	1.2
Steven M. Paul, M.D.	1,000		127,138		128,138	*
David E.I. Pyott	27,900(13)		47,500		75,400	*
Colleen F. Reitan***						*
Paul R. Schimmel, Ph.D.	306,996(14)		33,750		340,746	*
Amy W. Schulman			63,750		63,750	*
Phillip A. Sharp, Ph.D.	266,899(15)		217,420		484,319	*
Barry E. Greene	64,873(12)(16)		665,341		730,214	*
Yvonne L. Greenstreet, MBChB, MBA	2,224(12)		128,716		130,940	*
Akshay K. Vaishnaw, M.D., Ph.D.	12,589(12)		224,937		237,526	*
Manmeet S. Soni	97(12)		81,922		82,019	*
All current directors and current executive officers as a group (16 persons)						
	898,701		2,981,333		3,880,034	3.6

* Less than 1% of our outstanding common stock.

** Joined as a director in January 2019.

*** Joined as a director in June 2018.

(1) Unless otherwise indicated, the address of each stockholder is c/o Alnylam Pharmaceuticals, Inc., 300 Third Street, Cambridge, MA 02142.

(2) Reflects shares issuable upon the exercise of stock options that are exercisable or will become exercisable within 60 days after January 31, 2019.

(3)

Percentage of beneficial ownership is based on 106,258,250 shares of our common stock outstanding as of January 31, 2019. Shares of common stock subject to options currently exercisable, or exercisable within 60 days of January 31, 2019, are deemed outstanding for computing the percentage of the common stock beneficially owned by the person holding such options but are not deemed outstanding for computing the percentage ownership of any other person.

- (4) According to Amendment No. 14 to a Schedule 13G filed by FMR LLC (previously known as FMR Corp.) with the SEC on February 13, 2019, as of December 31, 2018, Fidelity Management & Research Company, a wholly-owned subsidiary of FMR LLC and an investment adviser registered under Section 203 of the Investment Advisers Act of 1940, is the beneficial owner of 15,154,553 shares of our common stock, as a result of acting as an investment adviser to various investment companies registered under Section 8 of the Investment Company Act of 1940. Abigail P. Johnson, Director, Chairman and Chief Executive Officer of FMR LLC and FMR LLC, through its control of Fidelity Management & Research Company and the funds, each has sole power to dispose of the 15,154,553 shares of our common stock owned by such funds. Fidelity Management & Research Company carries out the voting of the shares under written guidelines established by the funds' Boards of Trustees. Various persons have the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, the shares of our common stock held by these funds. The address of FMR LLC is 245 Summer Street, Boston, MA 02210.

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- (5) According to Amendment No. 7 to a Schedule 13G filed by Wellington Management Group LLP (formerly Wellington Management Company, LLP), or Wellington Management, with the SEC on February 12, 2019, as of December 31, 2018, Wellington Management, in its capacity as an investment adviser, may be deemed to beneficially own 14,066,227 shares of our common stock which are held of record by clients of Wellington Management. Those clients have the right to receive, or the power to direct the receipt of, dividends from, or the proceeds from the sale of, such securities. Vanguard Health Care Fund is the only client known to have such right or power with respect to more than 5% of the reported shares. Wellington Management has shared power to vote or to direct the vote with respect to 4,070,456 shares of our common stock and shared power to dispose or to direct the disposition of 14,066,227 shares of our common stock. The address of Wellington Management is 280 Congress Street, Boston, MA 02210.

- (6) According to a Form 4 filed with the SEC on January 22, 2019 by Sanofi, as of January 17, 2019, Sanofi was the record and beneficial owner of 10,554,134 shares of our common stock. In January 2014, we entered into a global, strategic collaboration with Sanofi Genzyme (formerly Genzyme Corporation), the specialty care global business unit of Sanofi, to discover, develop and commercialize RNAi therapeutics as genetic medicines to treat orphan diseases, which we restructured in January 2018. The address of Sanofi is 54 Rue La Boétie, 75008 Paris (France).

- (7) According to Amendment No. 5 to a Schedule 13G filed by Vanguard Specialized Funds Vanguard Health Care Fund, or Vanguard, with the SEC on January 31, 2019, as of December 31, 2018, Vanguard has the sole power to vote the shares owned. The address of Vanguard is 100 Vanguard Blvd., Malvern, PA 19355.

- (8) According to Amendment No. 3 to a Schedule 13G filed by The Vanguard Group with the SEC on February 11, 2019, as of December 31, 2018, The Vanguard Group has the sole power to vote 67,892 of the shares owned, shared power to vote 19,857 of the shares owned, sole dispositive power for 8,134,026 of the shares owned and shared dispositive power for 85,308 of the shares owned. Vanguard Fiduciary Trust Company and Vanguard Investments Australia, Ltd., wholly-owned subsidiaries of The Vanguard Group, are the beneficial owners of 39,775 and 72,374 of the shares owned, respectively. The address of The Vanguard Group is 100 Vanguard Blvd., Malvern, PA 19355.

- (9) According to Amendment No. 2 to a Schedule 13G filed by BlackRock, Inc. with the SEC on February 4, 2019, as of December 31, 2018, BlackRock, Inc. has the sole power to vote or direct the voting of 5,558,406 of the shares owned. Various persons have the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, the shares of our common stock held by BlackRock, Inc. The address of BlackRock, Inc. is 55 East 52nd Street, New York, NY 10055.

- (10) Represents shares held in a trust, of which Dr. Ausiello's spouse is the trustee.

- (11) Represents shares held in a trust, of which Mr. Bonney is the trustee and over which he has sole voting and investment power.

- (12) Includes shares of our common stock contributed by Alnylam to our 401(k) plan for the benefit of our NEOs as of January 31, 2019: Dr. Maraganore, 3,038 shares; Mr. Greene, 2,905 shares; Dr. Greenstreet, 308 shares; Dr. Vaishnaw, 416 shares; and Mr. Soni, 97 shares.
- (13) Represents shares held in a trust, of which Mr. Pyott is the trustee and over which he has sole voting and investment power.
- (14) Includes shares of our common stock held by the Paul Schimmel Prototype PSP, of which Dr. Schimmel is the trustee and over which he has sole voting and investment power, and the Schimmel Revocable Trust U/A dated 9/6/2000, of which Dr. Schimmel and his spouse are trustees and share voting and investment power.
- (15) Includes shares of our common stock held by the Phillip A. Sharp Revocable Trust, of which Dr. Sharp is the trustee and over which he has sole voting and investment power. Also includes shares held in trusts for the benefit of Dr. Sharp's children, of which Dr. Sharp's spouse and children are the trustees.
- (16) Includes shares of our common stock held by the Barry E. Greene Qualified Annuity Interest Trust (GRAT), of which Mr. Greene is the sole trustee.

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Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires our directors, executive officers and the holders of more than 10% of our common stock to file with the SEC initial reports of ownership of our common stock and other equity securities on a Form 3 and reports of changes in such ownership on a Form 4 or Form 5. Officers, directors and 10% stockholders are required by SEC regulations to furnish us with copies of all Section 16(a) forms they file. Based solely on a review of our records and written representations by the persons required to file these reports, we believe that all such persons complied on a timely basis with the filing requirements of Section 16(a) during the fiscal year ended December 31, 2018.

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EXECUTIVE OFFICERS

All executive officers of the company are appointed annually and serve at the pleasure of our board of directors. Set forth below with respect to each executive officer is information as of March 1, 2019 with respect to his or her (a) name and age, (b) positions and offices at Alnylam, (c) principal occupation and business experience during at least the past five years, and (d) directorships, if any, of other publicly-held companies, held currently or during the past five years. There are no family relationships between any of our directors and executive officers. None of the corporations or other organizations referred to below with which an executive officer has previously been employed or otherwise associated is a parent, subsidiary or affiliate of Alnylam.

John M. Maraganore, Ph.D., 56, has served as our Chief Executive Officer and as a member of our board of directors since December 2002. Dr. Maraganore also served as our President from December 2002 to December 2007. From April 2000 to December 2002, Dr. Maraganore served as Senior Vice President, Strategic Product Development at Millennium Pharmaceuticals, Inc., a biopharmaceutical company (now Millennium: The Takeda Oncology Company). Dr. Maraganore serves as a member of the board of directors of Agios Pharmaceuticals, Inc. and Chair of the Biotechnology Industry Organization, a non-profit biotechnology trade organization. Dr. Maraganore formerly served as a director of bluebird bio, Inc. and Regulus Therapeutics Inc.

Barry E. Greene, 55, has served as our President since December 2007, as our Chief Operating Officer from the time he joined us in October 2003 through September 2016, and from February 2004 through December 2005, as our Treasurer. From February 2001 to September 2003, Mr. Greene served as General Manager of Oncology at Millennium Pharmaceuticals, Inc., a biopharmaceutical company (now Millennium: The Takeda Oncology Company). Mr. Greene serves as a member of the board of directors of Acorda Therapeutics, Inc. and as the lead independent director of Karyopharm Therapeutics Inc.

Akshay K. Vaishnaw, M.D., Ph.D., 56, has served as our President, Research and Development since March 2018 and was our Executive Vice President of Research and Development from December 2014 to March 2018 and our Chief Medical Officer from June 2011 to December 2016. He served as our Executive Vice President from June 2012 to December 2014 and prior to that as our Senior Vice President from June 2011 to June 2012. He served as our Senior Vice President, Clinical Research from December 2008 to June 2011, and prior to that served as our Vice President, Clinical Research from the time he joined us in January 2006. From December 1998 through December 2005, Dr. Vaishnaw held various positions at Biogen Inc., a biopharmaceutical company. Dr. Vaishnaw serves as a member of the board of directors of Editas Medicine, Inc.

Yvonne L. Greenstreet, MBChB, MBA, 56, has served as our Chief Operating Officer since September 2016. Prior to joining Alnylam, Dr. Greenstreet most recently served as the founder and Managing Director of Highgate LLC, from January 2014 to August 2016. Prior to that time, Dr. Greenstreet served as the Senior Vice President and Head of Medicines Development at Pfizer Inc., a multinational pharmaceutical company, from December 2010 to November 2013. Prior to joining Pfizer, Dr. Greenstreet worked for 18 years at GlaxoSmithKline plc, or GSK, a multinational pharmaceutical, biologics, vaccines and consumer healthcare company, where she served in various

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positions, most recently as Senior Vice President and Chief of Strategy for Research and Development and as a member of GSK's Product Management Board. Dr. Greenstreet currently serves on the Scientific Advisory Committee of the Bill and Melinda Gates Foundation and serves as a member of the board of directors of Pacira Pharmaceuticals, American Funds and Indivior PLC.

Laurie B. Keating, J.D., 65, has served as our Executive Vice President, Chief Legal Officer and Secretary since March 2019 and was our Senior Vice President, General Counsel and Secretary from September 2014 to March 2019. Prior to joining Alnylam, Ms. Keating served as Senior Vice President, General Counsel and Secretary of Millennium: The Takeda Oncology Company, a biopharmaceutical company, from September 2004 to January 2014. Prior to Millennium, Ms. Keating was co-founder and the first Chief Executive Officer of Hydra Biosciences, Inc. Before co-founding Hydra, she served as an executive at several high growth technology companies. Upon graduating from law school, Ms. Keating practiced law at McCutchen, Doyle, Brown and Enersen (which became Bingham McCutchen and is now a part of Morgan, Lewis & Bockius).

Manmeet S. Soni, 41, has served as our Senior Vice President, Chief Financial Officer and Principal Financial Officer since May 2017 and our Principal Accounting Officer since October 2018. From March 2016 to February 2017, Mr. Soni served as the Executive Vice President, Chief Financial Officer and Treasurer of ARIAD Pharmaceuticals, Inc., a biopharmaceutical company, when ARIAD was acquired by Takeda Pharmaceutical Company Limited. Mr. Soni continued as an employee of ARIAD through May 2017. Previously, he served as Chief Financial Officer of Pharmacyclics, Inc., a biopharmaceutical company, until its acquisition by AbbVie, Inc. in May 2015, after which he supported AbbVie during the post-acquisition transition through September 2015. He first joined Pharmacyclics in September 2012 as Corporate Controller and was promoted to serve as Principal Accounting and Financial Officer, Treasurer in August 2013, prior to being appointed as Chief Financial Officer and Treasurer in February 2014. Prior to joining Pharmacyclics, Mr. Soni worked at ZELTIQ Aesthetics Inc., a publicly held medical technology company as Corporate Controller. Prior to ZELTIQ, Mr. Soni worked at PricewaterhouseCoopers from June 2007 to January 2012 in the Life Science and Venture Capital Group. Prior to that, he worked at PricewaterhouseCoopers India providing audit and assurance services. Mr. Soni serves as a member of the board of directors of Pulse Biosciences, Inc. and Arena Pharmaceuticals, Inc. Mr. Soni is a certified public accountant and completed his Chartered Accountancy from the Institute of Chartered Accountants of India.

Table of Contents**EXECUTIVE COMPENSATION****COMPENSATION DISCUSSION AND ANALYSIS****Executive Summary**

Our compensation committee is responsible for overseeing the total compensation of our senior management team, which is comprised of our named executive officers, or NEOs, our executive vice presidents, senior vice presidents and vice presidents. Our compensation committee formally approves the compensation of our NEOs, executive vice presidents and senior vice presidents. This Compensation Discussion and Analysis describes the pay philosophy established for Alnylam's NEOs, the design of our compensation programs, the process used to examine performance in the context of executive pay decisions, and the results for each NEO. Our NEOs for 2018 are named below.

Name	Title
John M. Maraganore, Ph.D.	Chief Executive Officer (CEO)
Barry E. Greene	President
Yvonne L. Greenstreet, MBChB, MBA(1)	Chief Operating Officer
Akshay K. Vaishnaw, M.D., Ph.D.(2)	President, Research and Development
Manmeet S. Soni	Senior Vice President, Chief Financial Officer

(1) Effective March 1, 2019, Dr. Greenstreet is considered a president level employee for compensation purposes.

(2)

Dr. Vaishnaw served as our executive vice president, research and development through March 8, 2018, at which time he was appointed as our president, research and development.

Although we describe our programs in the context of the NEOs, it is important to note that our programs generally have broad eligibility and therefore in most cases apply to employee populations outside the NEO group as well.

Stockholder Engagement and Feedback

2018 Say-on-Pay Results

We pay careful attention to any feedback we receive from our stockholders about our executive compensation program. At our 2018 annual meeting, our say-on-pay proposal received support from 99% of the votes cast by our stockholders on the matter. Our compensation committee believes that the stockholders, through this advisory vote, generally endorsed our compensation philosophy and principles, thus, our compensation committee maintained the basic structure and design of our executive compensation program for fiscal year 2018. Over the past five years, our annual say-on-pay proposal has received consistent, overwhelming support from our stockholders, receiving at least 90% of the votes cast by our stockholders on the matter each year. Our board of directors and our compensation committee are encouraged by the sustained level of stockholder support for our executive compensation program. Nevertheless, the company is committed to engagement with stockholders to ensure that we continue to understand stockholder feedback about

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our compensation programs and other key matters of interest to them, and to enable us to take that feedback into consideration for our compensation decisions.

Alnylam maintains an ongoing commitment to corporate governance principles and strong performance orientation in our compensation program by proactively reviewing our policies and program design. In 2018, this included an evaluation of our incentive compensation programs. With respect to our long-term equity incentive program, we adjusted the mix of equity for our annual awards to include performance-based stock units, or PSUs, and continued to manage award amounts, with a goal of maintaining broad-based equity participation, delivering value that is aligned with our compensation philosophy and proactively managing our share usage as well as dilution during a period of rapid growth. We expect to continue to evaluate our equity compensation strategy across the organization during 2019 to manage our equity utilization during 2020 and beyond, and determine if additional adjustments are warranted, including moving to a value-based award determination starting in 2020. We also evaluated the target award percentages under our short-term incentive program, resulting in an increase in the CEO's target award percentage for 2018. Finally, we evaluated, with assistance from an independent compensation consultant, our peer group and made certain adjustments for 2018.

Best Practices in Compensation Governance

In addition to our performance-sensitive direct compensation structure, Alnylam has strong compensation governance practices. Our compensation governance practices are rooted in our Compensation Philosophy, which is described below.

Compensation Governance

Alnylam's Policies and Practices

Pay-for-performance

Alnylam's executive compensation program reinforces our performance driven culture. A significant percentage of our executive officer compensation is at-risk and may not be realized if corporate goals are not achieved.

No default single-trigger equity acceleration

Our change-in-control, or CIC, agreements for executives, adopted in 2017, and both our 2018 Plan and our Amended and Restated 2009 Stock Incentive Plan do not allow for the automatic accelerated vesting of outstanding equity awards upon a CIC event.

Emphasis on long-term performance

Executive compensation should reflect alignment with the interests of stockholders. For 2018, and in each of the prior five years, 50% of our executive officers' annual equity awards were delivered in the form of performance-based equity awards that vest in three or four equal installments based upon the achievement of pre-specified clinical development, regulatory and/or commercial events. The grant of annual performance-based equity awards emphasizes the importance of long-term performance for value creation.

Clawback policy

We have a clawback policy that covers our chief executive officer and our principal financial officer, as well as all of our officers at the level of vice president and above. The policy provides that covered executives who engage in misconduct, including embezzlement, fraud, willful misconduct or breach of fiduciary duty, resulting in a financial restatement, shall be required, upon the determination of our board of directors, to repay the company any excess proceeds from cash and equity incentive compensation earned during the covered period.

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No guaranteed annual bonus or guaranteed salary increase

We do not provide our executive officers with guaranteed annual salary increases or annual or multi-year guaranteed bonuses.

No hedging

Alnylam's Insider Trading Policy expressly prohibits hedging company securities. Further, it does not permit waivers allowing for pre-clearance/pre-approval under certain situations.

No excise tax and generally no other tax gross-ups

We do not provide our executives with excise tax gross-ups and we generally do not provide other recurring tax gross-ups.

No pledging

Alnylam's Insider Trading Policy expressly prohibits pledging of company securities. Further, it does not permit waivers allowing for pre-clearance/pre-approval under certain situations.

Limited perquisites

Consistent with our pay-for-performance philosophy, we provide very limited perquisites to our executives. We do not provide personal perquisites such as automobile leases, driver services or personal use of aircraft.

Stock ownership guidelines

We maintain stock ownership guidelines for our directors (including our CEO) and for the president of the company.

Independent compensation consultant

Our compensation committee engages an independent consultant to advise it on topics related to board and executive compensation.

Select Business Highlights For 2018

We are a global commercial-stage biopharmaceutical company developing novel therapeutics based on RNAi. RNAi is a naturally occurring biological pathway within cells for sequence-specific silencing and regulation of gene expression. We are harnessing the RNAi pathway to develop a new class of innovative medicines, known as RNAi therapeutics. RNAi therapeutics are comprised of small interfering RNA and function upstream of today's medicines by silencing messenger RNA that encode for disease-causing proteins, thus preventing them from being made. We believe this is a revolutionary approach with the potential to transform the care of patients with genetic and other diseases.

We believe 2018 was a transformative year for Alnylam, as we continued to make significant progress on our commercial, clinical development and other corporate goals, moving us closer toward fulfilling our *Alnylam 2020* strategy of building a multi-product global commercial company with a deep and sustainable clinical pipeline and a robust product engine by the end of 2020, a company profile rarely achieved in biotech history. Most importantly, in August 2018, we received approval of the first ever RNAi therapeutic, ONPATTRO, for the treatment of the polyneuropathy of hATTR amyloidosis in adults in the U.S. and for the treatment of hATTR amyloidosis in adults with stage 1 or stage 2 polyneuropathy in the European Union, or EU. In addition, we, together with our partners, advanced five other late-stage clinical development programs, and we continued to advance earlier stage candidates and optimize our product platform. We also continued to execute on our business objectives, forming strategic relationships, strengthening our financial position and

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building our global commercial infrastructure. Based on our performance in 2018, our board determined that, with respect to NEO awards, we achieved 80% of our corporate goals for fiscal year 2018, including several key commercial execution and late-stage pipeline goals, as well as all of our strategic infrastructure, growth and growth management goals, and our research platform goals.

SELECT BUSINESS HIGHLIGHTS FOR 2018

COMMERCIAL ACHIEVEMENTS

Launched ONPATTRO in the U.S. in August 2018 and in several countries in Europe during the fourth quarter of 2018

Recognized ONPATTRO net revenue of \$12.5 million for the year ended December 31, 2018

CLINICAL & REGULATORY ACHIEVEMENTS

Advanced robust pipeline ending 2018 with eight product candidates in clinical development, including several in development with partners

Received approval of ONPATTRO from the FDA for the treatment of the polyneuropathy of hATTR amyloidosis in adults in the U.S. and from the European Commission, or EC, for the treatment of hATTR amyloidosis in adult patients with stage 1 or stage 2 polyneuropathy in the EU

Submitted a new drug application, or NDA, to Japan's Pharmaceuticals and Medical Devices Agency, a marketing authorisation application, or MAA, to The Swiss Agency for Therapeutic Products, and received a Priority Review designation in Canada for ONPATTRO

Initiated the HELIOS-A Phase 3 study for vutrisiran, for the treatment of ATTR amyloidosis, and received Orphan Drug Designations from U.S. and EU regulatory agencies

Completed enrollment in the ENVISION Phase 3 study of givosiran, for the treatment of acute hepatic porphyria, reported positive topline results from the ENVISION interim efficacy analysis and initiated a rolling submission of an NDA to the FDA

Received Breakthrough Therapy and Priority Medicines Designations from the U.S. and EU regulatory authorities, respectively, for lumasiran, for the treatment of primary hyperoxaluria Type 1, or PH1, initiated the ILLUMINATE-A Phase 3 study of lumasiran in children and adults with PH1, and aligned with the FDA on trial design for ILLUMINATE-B, a Phase 3 pediatric study in PH1 patients less than six years of age

Our partner, Sanofi Genzyme, initiated enrollment in the ATLAS Phase 3 program for fitusiran for the treatment of hemophilia A and B, with and without inhibitors

Our partner, The Medicines Company, advanced its ORION Phase 3 program for inclisiran, for the treatment of hypercholesterolemia, receiving a recommendation from the Independent Data Monitoring Committee to continue the ongoing Phase 3 ORION trials as designed and to be conducted without modification, following the fifth review of unblinded safety and efficacy data

Advanced our early stage pipeline, including cemdisiran for the treatment of complement-mediated diseases; ALN-AAT02 for the treatment of alpha-1 liver disease, which is based on our Enhanced Stabilization Chemistry-Plus, or ESC+, GalNAc conjugate technology; and ALN-HBV02 (VIR-2218) for the treatment of chronic hepatitis B virus infection, in collaboration with our partner, Vir Biotechnology, Inc.

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BUSINESS AND STRATEGIC INITIATIVES

Completed a strategic restructuring of our rare disease alliance with Sanofi Genzyme, originally formed in 2014, with us obtaining global rights to our ATTR amyloidosis programs ONPATTRO and vutrisiran and Sanofi Genzyme obtaining global rights to fitusiran

Formed a strategic collaboration with Regeneron Pharmaceuticals, Inc. to identify and advance RNAi therapeutics for the treatment of nonalcoholic steatohepatitis, a chronic liver disease

Achieved hiring and growth management goals, including the establishment and staffing of our affiliate in Japan

FINANCIAL RESULTS

Exceeded our year-end cash guidance, ending the year with \$1.13 billion in cash, cash equivalents, and marketable debt securities and restricted investments, excluding equity securities

CLINICAL AND REGULATORY DISAPPOINTMENTS

FDA approval for ONPATTRO did not include the treatment of cardiomyopathy in hATTR patients

Despite positive interim analysis results for givosiran, decided to not file for accelerated approval with the FDA due to accelerated enrollment in ENVISION; in consultation with the FDA, decided to pursue a full approval based on the complete results of the ENVISION Phase 3 study of givosiran

Discontinued a Phase 2 study of cemdisiran in atypical hemolytic uremic syndrome, or aHUS, due to recruitment challenges

STOCKHOLDER RETURN

Our three-year total stockholder return (TSR) for fiscal years 2016-2018 was -8.17% and our five-year TSR for fiscal years 2014-2018 was 2.55%. Our one-year TSR for 2018 was -42.61%

Compensation Philosophy

At Alnylam, our board believes a well-designed compensation program should align executive interests with the drivers of growth and stockholder returns, support achievement of the company's primary business goals, and attract and retain executives whose talents, expertise, leadership and contributions are expected to create sustained growth in long-term stockholder value. Consequently, our board believes the substantial majority of NEO compensation should be performance-based and variable pay.

Significant Compensation Decisions in 2018

As noted above, our compensation committee regularly reviews Alnylam's policies and program design for both our NEOs and all employees. In 2018, this included an evaluation of our incentive compensation programs. With respect to our long-term equity incentive program, we adjusted the mix of equity for our annual awards to include PSUs and continued to manage award amounts, with a goal of maintaining broad-based equity participation, delivering value that is aligned with our compensation philosophy and proactively managing our share usage as well as dilution during a period of rapid growth. We expect to continue to evaluate our equity compensation strategy across the organization during 2019 to manage our equity utilization during 2020 and beyond, and

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determine if additional adjustments are warranted, including moving to a value-based award determination starting in 2020. We also evaluated the target award percentages under our short-term incentive program, resulting in an increase in the CEO's target award percentage for 2018. Finally, we evaluated, with assistance from an independent compensation consultant, our peer group and made certain adjustments for 2018.

Role of the Compensation Consultant

Pursuant to its charter, our compensation committee has the authority to select and retain independent advisors and counsel to assist it with carrying out its duties and responsibilities, and we have provided appropriate funding to the compensation committee to do so. The compensation committee has exercised this authority to engage Radford as an independent compensation consultant. Radford serves as an advisor to our compensation committee on topics primarily related to our total compensation program, our equity compensation and our future equity compensation strategy, director and executive compensation, and peer group selection and evaluation. Radford reports directly to our compensation committee chair on the matters on which it has been retained. For 2018, we paid Radford approximately \$121,000 for advice and services provided to the compensation committee by Radford in its capacity as an independent compensation consultant.

Our compensation committee regularly reviews the services provided by its outside consultant and believes that Radford is independent from the company in providing executive compensation consulting services. Our compensation committee has assessed the independence of Radford consistent with Nasdaq Global Select Market listing standards and has concluded that the engagement of Radford does not raise any conflicts of interest. Our compensation committee continues to monitor the independence of its compensation consultant on a periodic basis.

In addition to their services with respect to compensation for the NEOs and other matters, described above, in 2018, Radford provided compensation consulting services to our management with respect to the compensation of employees outside the United States, as well as assistance with certain proxy-related matters. For 2018, we paid Radford approximately \$167,000 for advice and services that were not related to executive compensation. The decision to use Radford for advice and services not related to executive compensation was made by management. While the compensation committee does not pre-approve these non-executive compensation services, it does annually review Radford's internal guidelines and practices designed to guard against conflicts and ensure the objectivity of advice. The compensation committee believes that the advice and services unrelated to executive compensation that Radford provided to the company in 2018 did not impact advice and services that Radford provided to the compensation committee on executive compensation matters or the independence of Radford with respect to management.

Compensation Risk Oversight

We structure our pay to consist of both fixed and variable compensation to motivate our executives to produce superior short- and long-term results that are in the best interests of our company and stockholders in order to attain our ultimate objective of increasing stockholder value. In addition, we have established, and the compensation committee endorses, several controls to address and mitigate compensation-related risk, such as maintaining an anti-hedging and anti-pledging policy, stock ownership guidelines for directors (including our CEO) and the president of the company, and a clawback policy to recover cash and equity incentive awards in the event that incentive plan award decisions are based on financial results that are subsequently restated.

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We engaged our outside consultant, Radford, to assist the compensation committee in evaluating whether our policies and practices create excessive risk in our compensation programs. In conducting its independent assessment, Radford reviewed all of our incentive compensation and other programs and determined there were no compensation policies or practices that encourage excessive or inappropriate risk-taking. Radford discussed the detailed findings of this review with management and the chair of the compensation committee in February 2017, and management presented the results of the review to the compensation committee. As a result, the compensation committee concluded that our compensation policies and practices are not reasonably likely to have a material adverse effect on the company. The compensation committee intends to continue to evaluate on an ongoing basis the potential risks associated with our compensation policies and practices, and has engaged Radford to conduct an updated assessment of our compensation policies and practices during 2019. As a result of the successful approval and launch of our first commercial product, ONPATTRO, in 2018, this evaluation will include the potential risks associated with field-based incentive compensation and commercial-related goals and targets, as well as any other changes to our compensation policies and practices made since Radford's prior independent assessment.

Committee Process for Setting Total Compensation

Our compensation committee conducts an annual performance review of our NEOs and reviews the compensation of each member of our senior management team, approving compensation for our NEOs and senior vice presidents and above. Our compensation committee may also review the compensation of our NEOs during the course of the year. Our compensation committee may apply its discretion, as it deems appropriate, in determining executive compensation.

During the first quarter of each year, annual corporate goals and individual performance objectives are determined and set forth in writing. Corporate goals are weighted and approved by our board. At the beginning of the second half of each year, senior management formally reviews performance against goals for the first half of the year and re-aligns key goals for the second half of the year if necessary and subject to board approval. For 2018, the individual objectives for our executive officers were the same as the corporate goals for the purpose of determining annual cash incentive awards. The individual contributions of each executive officer towards the achievement of the corporate goals were considered for the purposes of determining other elements of compensation. Individual objectives for 2018 for the remaining members of our senior management team focused on contributions that were intended to drive achievement of the corporate goals and were proposed by each non-executive member of senior management, with review and input from our chief executive officer. In 2018, our compensation committee established the maximum cash bonus opportunity for each member of our senior management team for 2018 under the annual incentive program, representing a percentage of each individual's base salary.

In 2017, in connection with the continued build-out of our global commercial organization and preparations for the launch of our first commercial product in 2018, our compensation committee shifted the timing of annual performance reviews and the determination of base salary merit increases, annual cash incentive awards and annual equity awards to the first quarter of the following year. Accordingly, with respect to year-end 2018 compensation matters, our senior management team evaluated our corporate performance at the end of 2018 and the individual performance of employees, as compared to the corporate goals for that year, during the first quarter of 2019. During the first quarter of 2019, our compensation committee, with input and recommendations from our

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chief executive officer, evaluated each of our NEO's individual performance and determined any increases in base salary and any annual equity awards and/or, based solely on our performance against corporate goals, cash awards under our annual incentive program. Our compensation committee, with input from the chair of our board, evaluated our chief executive officer's individual performance and determined whether to change his base salary, grant him an annual equity award and/or grant him a cash award under our annual incentive program. Given the shift in our year-end compensation process, our compensation committee made grants of annual equity awards, and determined changes in base salary and the amount of any annual cash incentive payments, in February 2019. Accordingly, equity awards made with respect to 2018 performance were not granted until 2019, and therefore, are not reflected in the executive compensation tables for 2018. Rather, the awards reflected in the executive compensation tables for 2018 were granted in respect of 2017 performance. The 2018 awards, granted in February 2019, are reflected in the tables included in this Compensation Discussion and Analysis to provide all details of compensation related to 2018 performance. Changes in base salary of our NEOs approved in February 2019 were effective as of March 1, 2019. The cash incentive payments awarded under our annual incentive program for 2018 were paid in March 2019.

Compensation Peer Group and Peer Selection Process

We develop our compensation programs after reviewing publicly available compensation data and subscription survey data for our peer group, provided by Radford. In evaluating the total compensation of our NEOs, our compensation committee, using information provided by Radford, establishes a peer group of publicly traded, national and regional companies in the biopharmaceutical and biotechnology industries that is selected based on a balance of the following criteria:

Peer Selection Considerations**Organizational Structure**

Companies whose organizational structure, number of employees, stage of development, market capitalization, and research and development expenditures are similar to ours

Executive Positions

Companies with similar executive positions to ours

Executive Talent Pool

Companies against which we believe we compete for executive talent

Operations in U.S.

Public companies with substantial operations in the U.S. whose compensation and financial data are available in proxy statements or other public documents

In addition to the criteria above, our compensation committee also reviewed the peer selection criteria used by proxy advisors and considered the specific peers identified independently by each advisor. There are limited companies with a comparable profile to Alnylam. As such, Radford identified four categories of companies that were all considered for purposes of selecting a balanced group of peers: Large Biopharma; Similarly Situated Commercial; Similarly Situated Pre-Commercial; and Governance Peers meeting at least two selection criteria.

Table of Contents***2018 Peer Group***

Our compensation committee periodically reviews the company's peer group to ensure that the peer companies continue to be appropriate peers for compensation benchmarking purposes. Alnylam's 2017 peer group consisted of 17 companies operating in the biopharmaceutical/biotechnology industry. From the 2017 set of 17 companies, the committee, in consultation with Radford, determined that three companies were no longer appropriate as peers on a go-forward basis for a variety of reasons, including corporate transactions due to mergers and acquisitions, size and other considerations, and also selected four companies to be added as peer companies based primarily on the advancement of our late-stage pipeline and commercial readiness. The 2018 peer group reflecting these changes and approved by our compensation committee is shown below, with the new peer companies identified in italics.

2018 Peer Group

Agius Pharmaceuticals, Inc.

Incyte Corporation

Sage Therapeutics, Inc.