

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

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(1) Amount previously paid:

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

(3) Filing Party:

(4) Date Filed:



## LETTER FROM OUR CEO

April 2, 2021

To our Stockholders:

We invite you to attend the 2021 Annual Meeting of Stockholders of Alnylam Pharmaceuticals, Inc., which will be held online on Tuesday, May 18, 2021, beginning at 10:30 a.m., Eastern Time. You may attend the meeting virtually via the Internet at [www.virtualshareholdermeeting.com/ALNY2021](http://www.virtualshareholdermeeting.com/ALNY2021), 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 29, 2021 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,

A handwritten signature in black ink, appearing to read "JMM", with a long horizontal line extending to the right.

John M. Maraganore, Ph.D.  
*Chief Executive Officer and Director*  
On behalf of the Board of Directors of  
Alnylam Pharmaceuticals, Inc.



## NOTICE OF 2021 ANNUAL MEETING OF STOCKHOLDERS

- Date:** Tuesday, May 18, 2021
- Time:** 10:30 a.m., Eastern Time
- Place:** Online at [www.virtualshareholdermeeting.com/ALNY2021](http://www.virtualshareholdermeeting.com/ALNY2021)
- Record Date:** March 29, 2021. 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:**
1. To elect four (4) members to our board of directors, as nominated by our board of directors, each to serve as a Class II director for a term ending in 2024, or until a successor has been duly elected and qualified;
  2. 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;
  3. To ratify the appointment of PricewaterhouseCoopers LLP, an independent registered public accounting firm, as our independent auditors for the fiscal year ending December 31, 2021; and
  4. 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/ALNY2021](http://www.virtualshareholdermeeting.com/ALNY2021). 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. You will not be able to attend the annual meeting in person.**
- Voting:** Proposal 1 relates solely to the election of four (4) Class II 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.

**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](http://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**, if you received printed proxy materials, 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.

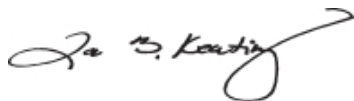
If you vote via the Internet or by telephone or mail your proxy in, you will not limit your right to vote online at the annual meeting.

*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 Internet Availability of Proxy Materials  
for the Stockholder Meeting to Be Held on May 18, 2021**

This Notice of 2021 Annual Meeting, Proxy Statement, 2020 Annual Report on Form 10-K and Annual Report to Stockholders are available for viewing, printing and downloading at [www.proxyvote.com](http://www.proxyvote.com).

By Order of the Board of Directors,



Laurie B. Keating  
Executive Vice President, Chief Legal Officer and Secretary

Cambridge, Massachusetts  
April 2, 2021



# PROXY STATEMENT

## Table of Contents

<a href="#">PROXY STATEMENT SUMMARY</a>	1
<a href="#">IMPORTANT INFORMATION ABOUT THE ANNUAL MEETING AND VOTING</a>	3
<a href="#">CORPORATE GOVERNANCE</a>	9
<a href="#">INFORMATION CONCERNING DIRECTOR NOMINEES – ELECTION OF CLASS II DIRECTORS (PROPOSAL 1)</a>	14
<a href="#">THE BOARD OF DIRECTORS AND ITS COMMITTEES</a>	27
<a href="#">DIRECTOR COMPENSATION</a>	40
<a href="#">SECURITIES OWNERSHIP</a>	44
<a href="#">EXECUTIVE OFFICERS</a>	48
<a href="#">EXECUTIVE COMPENSATION</a>	50
<a href="#">SAY-ON-PAY – ADVISORY VOTE ON EXECUTIVE COMPENSATION (PROPOSAL 2)</a>	88
<a href="#">RATIFICATION OF APPOINTMENT OF INDEPENDENT AUDITORS (PROPOSAL 3)</a>	90
<a href="#">AUDIT INFORMATION</a>	91
<a href="#">ADDITIONAL INFORMATION AND OTHER MATTERS</a>	93



## PROXY STATEMENT SUMMARY

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:** Tuesday, May 18, 2021  
**Time:** 10:30 a.m., Eastern Time  
**Location:** Online at [www.virtualshareholdermeeting.com/ALNY2021](http://www.virtualshareholdermeeting.com/ALNY2021)  
**Record Date:** March 29, 2021  
**You will not be able to attend the annual meeting in person.**

### Voting Items and Board Recommendations

		Board Recommendation
Proposal 1	<b>Election of Four (4) Class II Directors</b>	FOR All Nominees
Proposal 2	<b>Say-on-Pay—Advisory Vote on Approval of Executive Compensation</b>	FOR
Proposal 3	<b>Ratification of Independent Auditors</b>	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.

## How to Vote

Vote Right Away Through Advance Voting Methods			Vote During Meeting
<b>Vote by Internet Using Your Computer</b>  Go to <a href="http://www.proxyvote.com">www.proxyvote.com</a> and enter the 16-digit control number provided on your proxy card or voting instruction form.	<b>Vote by Telephone</b>  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.	<b>Vote by Mail</b>  If you received printed proxy materials, complete, sign and date the proxy card or voting instruction form and mail it in the accompanying pre-addressed envelope.	<b>Vote During the Meeting</b>  See “Important Information About the Annual Meeting and Voting – Voting” for details on how to vote during the Annual Meeting.

### Important Notice Regarding the Internet Availability of Proxy Materials for the Annual Meeting of Stockholders to be Held on May 18, 2021

We are furnishing proxy materials to our stockholders primarily via the Internet. On or about April 5, 2021, we will mail to our stockholders a Notice of Internet Availability containing instructions on how to access our proxy materials, including our proxy statement and our 2020 Annual Report. The Notice of Internet Availability also instructs you on how to submit your proxy or voting instructions through the Internet or to request a paper copy of our proxy materials, including a proxy card or voting instruction form that includes instructions on how to submit your proxy or voting instructions by mail or telephone. Other stockholders, in accordance with their prior requests, have received e-mail access to our proxy materials and instructions to submit their vote via the Internet, or have been mailed paper copies of our proxy materials and a proxy card or voting instruction form.

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](http://www.proxyvote.com).

A copy of our Annual Report on Form 10-K for the fiscal year ended December 31, 2020, as filed with the Securities and Exchange Commission, or SEC, on February 11, 2021, will be furnished without charge to any stockholder upon written request to Alnylam Pharmaceuticals, Inc., 675 West Kendall Street, Henri A. Termeer Square, 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, 2020 are also available on the SEC’s website at [www.sec.gov](http://www.sec.gov).

# IMPORTANT INFORMATION ABOUT THE ANNUAL MEETING AND VOTING

## Notice and Access

We have made these proxy materials available to you on the Internet in connection with the solicitation by our board of directors of proxies to be voted at our 2021 annual meeting of stockholders to be held online on Tuesday, May 18, 2021 at 10:30 a.m., Eastern Time (ET). We have elected to provide access to our proxy materials over the Internet under the SEC's "notice and access" rules. On or about April 5, 2021, we will mail to our stockholders a Notice of Internet Availability containing instructions on how to access our proxy materials, including our proxy statement and our 2020 Annual Report. We believe that providing our proxy materials over the Internet expedites stockholders' receipt of proxy materials, lowers costs and reduces the environmental impact of our annual meeting. 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. The Notice of Internet Availability instructs you on how to submit your proxy or voting instructions through the Internet.

In accordance with the SEC rules, we may furnish proxy materials, including this proxy statement and our 2020 Annual Report, to our stockholders by providing access to such documents on the Internet instead of mailing printed copies. If you would like to receive a paper copy of our proxy materials, the Notice of Internet Availability instructs you on how to request a paper copy of our proxy materials, including a proxy card or voting instruction form that includes instructions on how to submit your proxy or voting instructions by mail or telephone. Other stockholders, in accordance with their prior requests, have received e-mail access to our proxy materials and instructions to submit their vote via the Internet, or have been mailed paper copies of our proxy materials and a proxy card or voting instruction form.

## Who Can Vote

To be entitled to vote, you must be a stockholder of record at the close of business on March 29, 2021, the record date for our annual meeting. As of the record date, there were 117,320,127 shares of our common stock outstanding.

If you were a stockholder of record on March 29, 2021, 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/ALNY2021](http://www.virtualshareholdermeeting.com/ALNY2021). *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](http://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 May 17, 2021.
- **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 May 17, 2021.
- **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 May 17, 2021 to be voted at the annual meeting.
- **During the Annual Meeting.** You may vote during the annual meeting by going to [www.virtualshareholdermeeting.com/ALNY2021](http://www.virtualshareholdermeeting.com/ALNY2021). 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.

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 May 17, 2021.
- Sign a new proxy and submit it as instructed above. Only your latest dated proxy, received by no later than May 17, 2021, 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. 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/ALNY2021](http://www.virtualshareholdermeeting.com/ALNY2021).

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 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 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/ALNY2021](http://www.virtualshareholdermeeting.com/ALNY2021) 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 10:15 a.m. ET on May 18, 2021. The meeting will begin promptly at 10:30 a.m. ET on May 18, 2021.

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 April 2, 2021 and until 11:59 p.m. ET on May 17, 2021, you may log into [www.proxyvote.com](http://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/ALNY2021](http://www.virtualshareholdermeeting.com/ALNY2021), 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 10:00 a.m. ET on May 18, 2021 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 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 any of the Proposals to be considered at the annual meeting, because these Proposals are based on a percentage of the votes that are actually cast at the annual meeting.

#### ***Proposal 1 – Election of Four (4) Class II 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 – Non-binding Advisory Vote on the Compensation of Our Named Executive Officers***

To approve Proposal 2, 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 people, culture and compensation committee (sometimes referred to in this proxy statement as our PC&C 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 3 – Ratification of Appointment of Independent Auditors***

To approve Proposal 3, 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, 2021 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, 2021.

### **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 II directors, 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.

### **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 \$25,000, 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 the proxy card to Broadridge Financial Solutions, Inc. 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 May 13, 2021, 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., 675 West Kendall Street, Henri A. Termeer Square, 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.

# 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:

- 10 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 PC&C 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 executive officers 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 PC&C 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](http://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.

## 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;
- at least annually, our board shall make an affirmative determination regarding the independence of each director;
- 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.

## Second Amended and Restated Bylaws – Federal Forum Selection Provision

In response to a recent decision in the Delaware Supreme Court validating federal forum selection provisions, and the dramatic increase in class action lawsuits brought in state court under the Securities Act of 1933, as amended, or Securities Act, often in parallel with a federal court securities class action case arising from the same general facts, in the fourth quarter of 2020, our board reviewed the exclusive forum provision of our bylaws from a legal and policy perspective. In weighing the potential benefits and countervailing factors of including a federal forum selection provision in our bylaws, our board determined that the inclusion of a federal forum selection provision would reduce the costs of defending duplicative Securities Act cases in state and federal courts as we are currently doing in federal district court in Massachusetts and state court in New York. In addition, our board found that the inclusion of a federal forum selection provision would also allow for the avoidance of state court forum shopping and could provide us efficiencies in managing the procedural aspects of securities litigation.

After weighing the various factors, our board determined that it was in the best interests of Alnylam and its stockholders to include a federal forum selection provision in our bylaws. On November 2, 2020, our board approved our Second Amended and Restated Bylaws, or Bylaws, which were amended to (i) make clarifying changes to the exclusive forum provision providing that the Court of Chancery of the State of Delaware shall be the exclusive forum for certain state law claims, and (ii) designate the federal district courts of the United States of America as the sole and exclusive forum for any litigation arising under the Securities Act.

## Corporate Responsibility

Every day we focus on transforming the lives of patients with devastating rare or common diseases. With their needs at the forefront, we strive to give patients the opportunity to live healthier lives. Guided by our core values, our commitment to advancing breakthrough science and to making our medicines available to patients in an equitable way are central to how we operate and are foundational to our approach to Corporate Responsibility.

Beyond our commitment to patients, we recognize and embrace a range of other responsibilities, including advancing science; hiring, supporting, and developing a diverse group of employees; serving our local communities; protecting our planet; and operating our business in an ethical, compliant and accountable manner.

In 2020, stemming from our core values, we took an integrated and intentional approach to Corporate Responsibility, launching a new strategic framework to formalize and structure our activities. In addition, in March 2021, we released our first Corporate Responsibility Summary, formalizing the management, tracking and communication of our environmental, social and governance standards worldwide. The summary is available on our website, [www.alnylam.com](http://www.alnylam.com), under the “Corporate Responsibility” section. The contents of the Corporate Responsibility Summary are not deemed to be part of this proxy statement or incorporated by reference herein.

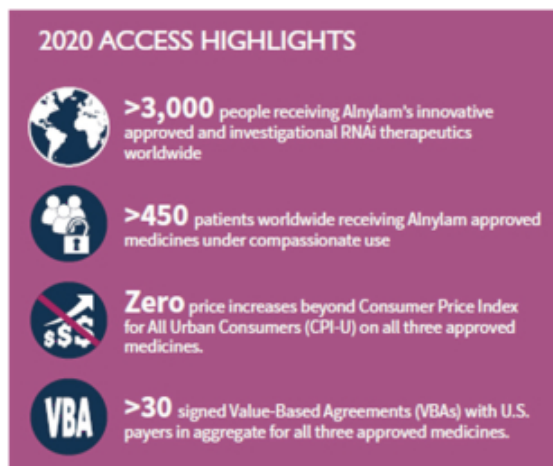
### ***Patient Access***

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 strive to improve patients' lives and enable access to potentially life-changing treatments, and recognize that affordability of medicines and access to treatment is a concern for patients and for the overall health care ecosystem. As part of our Patient Access Philosophy, we are committed to responsible pricing for all our products that reflects the value delivered to patients, caregivers, and society. We also aim to maintain consistent pricing approaches that enable sustainable innovation for rare and ultra-rare diseases. This philosophy includes our pledge against arbitrary price increases beyond the cost of inflation. As evidence of our commitment to responsible pricing, we have taken zero price increases on any of our marketed products since launch.

In addition, we believe we have also been at the forefront of developing innovative agreements and partnerships that are 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. Our dedication to value-based pricing guarantees that insurers and patients pay for a drug only when it has been shown to work. Since becoming a commercial company in 2018, we have forged over 30 value-based arrangements with public and private U.S. insurers.

As we expand our global footprint, we intend to continue to price our medicines responsibly, commensurate with the value delivered, and proportional to the rare and ultra-rare diseases they treat. We also intend to continue to actively engage with stakeholders across the global healthcare community to address financial barriers to patient access to appropriate treatment and pursue innovative solutions to the significant healthcare system challenges we face as a society.





### Diversity, Equity and Inclusion

Diversity, equity and inclusion, or DE&I, played an increasingly important role across our business this year, and we believe diverse, equitable and inclusive environments are essential for achieving breakthroughs. We recognize that discrimination and inequities exist in our society and communities, and that we have a responsibility to create meaningful change through broad, actionable, and measurable initiatives. We work hard to foster an equitable and inclusive environment that gives each employee the opportunity to thrive, and embrace diversity in all its facets, including gender, ethnic heritage, sexual orientation or identity, religion, culture, age, disability and varied backgrounds, beliefs, skills and life experiences.

### 2020 Global Employee Snapshot

Employee Data	As of December 31, 2020
Total employees	1,453
Proportion of global workforce who are women	50%
Total U.S. employees	1,147
Proportion of U.S. leadership positions (VP or above) held by women	36%
Proportion of U.S. employees who self-report as members of diverse populations*	33%

\* Based on self-reporting by 68% of U.S. employees on race and ethnicity, as 32% surveyed did not disclose

In 2020, we made strides to better understand the unique experiences of our co-workers, collect more data, increase training, and evolve many business practices. We also appointed our first Chief Diversity, Equity & Inclusion Officer to build on, lead, and develop new strategies to further align DE&I to business goals, leadership programs, hiring practices, clinical trials, and other core areas. To further guide our work, we have developed an overall strategy and action plan to increase representation, retention and mobility of women and under-represented minorities at all levels of the organization, and have specifically committed to increasing representation of Black, Indigenous and People of Color internally, with a specific 2021 goal of increasing the overall number of Black and Latinx individuals that make up our U.S. employee

base by 20%. A specific initiative we undertook in 2020 to support diverse communities was to identify Minority Depository Institutions, or MDIs, where we could deposit some of our monies, consistent with our investment policy, to create an income stream for MDIs. In early 2021, we identified a money market fund that meets the applicable criteria under our investment policy and that offers a share class allowing institutional investors to direct 10bps of the administrative fees for the fund to MDIs on a monthly basis. In furtherance of our support of diverse communities, we have committed to deposit a sizable amount into this special share class offered by the identified money market fund. Additional priorities in 2021 include integrating unconscious bias training for people managers into the company's core training curriculum and launching the Athena Project, our female leadership accelerator program, among others.

### ***Environmental Sustainability***

We cannot overstate the vital connection between the health of our planet and the health of humanity. We understand that energy, water, and materials use; greenhouse gas, or GHG, emissions; material and hazardous waste; and transportation are among the largest contributors to our environmental footprint. As our business continues to grow, we recognize the importance of understanding, mitigating, and reporting on our environmental footprint across the world. We know that the impacts of GHG emissions on climate change pose short- and long-term risks to human health, access to medicines, and supply chain reliability, and during 2020, our facilities and Environmental, Health and Safety teams initiated a process to start collecting new baseline data on our energy consumption, GHG emissions and other areas of environmental impact.

As we continue to gain a better understanding of our office, lab, manufacturing facilities, and other direct and indirect GHG emissions sources, we will work to develop additional strategic reduction methods and lower energy-related costs. In the meantime, we are collaborating with our landlords to collect data on a more regular cadence and push forward positive practices. For example, in 2020, we conducted our first Sustainability Survey for our leased office facilities outside of the U.S. to help us better understand and manage our footprint. Within our headquarters at 675 West Kendall Street in Cambridge, Massachusetts, in 2020 we began the process of installing an energy-efficient HVAC system designed to save 126,000 KWH per year and 2.65 million lbs. of steam per year, providing a 3.5-year return on investment on our energy efficiency investment. In addition, our new manufacturing facility in Norton, Massachusetts, which began testing and commissioning manufacturing equipment during 2020, was constructed with leading edge passive building and mechanical insulation systems to maximize energy efficiency and minimize heating and cooling losses. In 2021, we plan to implement various initiatives at our manufacturing facilities such as additional Electric Vehicle charging stations, compressed air system optimization, chiller / HVAC controls optimization improvements, and implement necessary data collection tools to collect and monitor critical data needed to quantify energy and water use efficiencies.

Building on these sustainability efforts, our next steps will be to establish better tracking and measurement tools, refine strategies and determine targets to drive our environmental performance. To further that effort, key priorities in the next year include establishing baseline metrics on solid waste across our operations globally, expanding conversations with landlords of leased offices on sustainability, and establishing baseline metrics on energy usage and GHG emissions across our operations globally beginning in 2022. Such steps will enable us to increase our internal and external transparency and report progress against specific goals.

## INFORMATION CONCERNING DIRECTOR NOMINEES – ELECTION OF CLASS II 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. In February 2020, our board of directors expanded the size of our board from eleven to twelve directors and elected Dr. Olivier Brandicourt as a Class II director to fill the vacancy, effective March 2, 2020. Dr. Brandicourt's term expires at this annual meeting. Also in February 2020, as required by our Corporate Governance Guidelines, Dr. Paul Schimmel, a Class I director, offered his resignation, effective at our 2020 annual meeting, and our board of directors accepted his resignation, at the recommendation of our nominating and corporate governance committee. Dr. Schimmel was a scientific founder of Alnylam and was elected to our board of directors in 2002. In February 2020, the board also approved a reduction in the size of the board from twelve to eleven members, effective upon Dr. Schimmel's resignation in May 2020.

At the annual meeting, we are proposing the election of four (4) Class II directors to hold office until the annual meeting of stockholders to be held in 2024, 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 Dennis A. Ausiello, M.D., Olivier Brandicourt, M.D., Marsha H. Fanucci and David E.I. Pyott for election to the board of directors as Class II directors. Drs. Ausiello and Brandicourt, Ms. Fanucci and Mr. Pyott are currently serving as Class II directors. Dr. Ausiello has served as a director since 2012, Dr. Brandicourt has served as a director since 2020, Ms. Fanucci has served as director since 2010 and Mr. Pyott has served as a director since 2015. The persons named in the enclosed proxy will vote to elect each nominee for Class II director unless the proxy is marked otherwise. Drs. Ausiello and Brandicourt, Ms. Fanucci and Mr. Pyott 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 II 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 II directors elected at this year's annual meeting will serve as members of our board until the 2024 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. Ausiello and Brandicourt, Ms. Fanucci and Mr. Pyott as a Class II director.**

Set forth below for each continuing director, including the Class II director nominees, is information as of March 15, 2021 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 continuing 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 II—Directors/Nominees to be elected at the 2021 annual meeting (terms expiring in 2024)

<p><b>Dennis A. Ausiello, M.D.</b></p> <p><b>Committees:</b></p> <ul style="list-style-type: none"><li>• Nominating and Corporate Governance Committee</li><li>• Science and Technology Committee</li></ul> <p><b>Director since: 2012</b> <b>Age: 75</b></p>	<p>Dr. Ausiello has served as a member of our board of directors since April 2012. As required by our corporate governance guidelines, Dr. Ausiello offered his resignation to the nominating and corporate governance committee upon reaching the age of 75. After considering Dr. Ausiello's many contributions to the board of directors and his specialized experience in areas critical to our company, our nominating and corporate governance committee recommended to our board, and our board of directors determined not to accept Dr. Ausiello's resignation and is recommending Dr. Ausiello for re-election as a director.</p> <p><b>Experience, Expertise and Qualifications</b></p> <p>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 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 Seres Therapeutics, Inc. and formerly served as a director of Pfizer Inc.</p> <p><b>Key Contributions to the Board</b></p> <p>Dr. Ausiello's experience as a practicing physician, a scientist and a nationally recognized leader in academic medicine enables 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 further develop our global commercial operations following the approval and launch of three commercial products in less than three years. 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.</p>
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<p><b>Olivier Brandicourt, M.D.</b></p> <p><b>Committees:</b></p> <ul style="list-style-type: none"><li>• People, Culture and Compensation Committee</li></ul> <p><b>Director since: 2020</b> <b>Age: 65</b></p>	<p>Dr. Brandicourt has served as a member of our board of directors since March 2020.</p> <p><b>Experience, Expertise and Qualifications</b></p> <p>Dr. Brandicourt has served as a Senior Advisor at Blackstone, a leading global investment firm, since December 2019. From April 2015 to August 2019, Dr. Brandicourt served as Chief Executive Officer and a member of the board of directors of Sanofi, a global biopharmaceutical company. Prior to Sanofi, he was Chief Executive Officer and Chair of Bayer HealthCare AG from November 2013 to March 2015. Between 2000 and 2013, Dr. Brandicourt served in various operational and managerial positions at Pfizer Inc., a global pharmaceutical company, including as a member of the Executive Leadership Team and President and General Manager of the Emerging Markets and Established Products business units, amongst other roles.</p> <p><b>Key Contributions to the Board</b></p> <p>Dr. Brandicourt has over 30 years of global commercial experience in the biopharmaceutical industry, including as a senior leader of three pharmaceutical companies. Dr. Brandicourt's operational, global commercial and senior management experience provides an invaluable perspective to our board as we further develop our global commercial operations following the approval and launch of three commercial products in less than three years, as well as advance additional late-stage development programs and partner additional programs and technologies.</p>
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<p><b>Marsha H. Fanucci</b></p> <p><b>Committees:</b></p> <ul style="list-style-type: none"><li>• Audit Committee (Chair)</li><li>• Nominating and Corporate Governance Committee</li></ul> <p><b>Director since: 2010</b> <b>Age: 67</b></p>	<p>Ms. Fanucci has served as a member of our board of directors since December 2010.</p> <p><b>Experience, Expertise and Qualifications</b></p> <p>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 to 2003. 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 is Chair of the board of directors of Cyclerion Therapeutics, Inc. and serves as a director of Syros Pharmaceuticals, Inc. and Forma Therapeutics Holdings, Inc., and formerly served as a director of Ironwood Pharmaceuticals, Inc. and Momenta Pharmaceuticals, Inc.</p> <p><b>Key Contributions to the Board</b></p> <p>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 to our audit committee, which she chairs, as we continue to grow our company, advance our late stage clinical development pipeline, further develop our global commercial operations following the approval and launch of three commercial products in less than three years, and partner additional programs and technologies.</p>
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<p><b>David E.I. Pyott</b></p> <p><b>Committees:</b></p> <ul style="list-style-type: none"><li>• Nominating and Corporate Governance Committee (Chair)</li></ul> <p><b>Director since: 2015</b> <b>Age: 67</b></p>	<p>Mr. Pyott has served as a member of our board of directors since December 2015.</p> <p><b>Experience, Expertise and Qualifications</b></p> <p>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 a director of BioMarin Pharmaceutical Inc., Pliant Therapeutics, 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 and Avery Dennison Corporation.</p> <p><b>Key Contributions to the Board</b></p> <p>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 further develop our global commercial operations following the approval and launch of three commercial products in less than three years. 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.</p>
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## Class III—Directors Whose Terms Expire in 2022

<p><b>Margaret A. Hamburg, M.D.</b></p> <p><b>Committees:</b></p> <ul style="list-style-type: none"><li>• Science and Technology Committee</li></ul> <p><b>Director since: 2019</b> <b>Age: 65</b></p>	<p>Dr. Hamburg has served as a member of our board of directors since January 2019.</p> <p><b>Experience, Expertise and Qualifications</b></p> <p>Dr. Hamburg currently serves as Interim Vice President, Global Biological Policy and Programs at the Nuclear Threat Initiative. Dr. Hamburg recently completed her five-year term as Foreign Secretary of the National Academy of Medicine, serving from April 2015 to July 2020 and completed her service as Chair of the Board of the American Association for the Advancement of Science (AAAS) in February 2020. 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 a member of Harvard University Global Advisory Council, the Joint Coordinating Group for the Coalition for Epidemic Preparedness Initiative (CEPI), 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 Global Commission for Post-Pandemic Planning. Dr Hamburg chairs the Harvard Medical School Board of Fellows and is co-Chair of the World Health Organization (WHO) Expert Advisory Committee on Human Genome Editing.</p> <p><b>Key Contributions to the Board</b></p> <p>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 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 further develop our global commercial operations following the approval and launch of three commercial products in less than three years.</p>
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<p><b>Steven M. Paul, M.D.</b></p> <p><b>Committees:</b></p> <ul style="list-style-type: none"><li>• People, Culture and Compensation Committee</li><li>• Science and Technology Committee</li></ul> <p><b>Director since: 2010</b> <b>Age: 70</b></p>	<p>Dr. Paul has served as a member of our board of directors since September 2010.</p> <p><b>Experience, Expertise and Qualifications</b></p> <p>Dr. Paul has served as the Chief Executive Officer and Chair of the Board of Karuna Therapeutics, Inc., a clinical-stage biopharmaceutical 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 a professor of Psychiatry and Neurology 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 2014. Since 2018, Dr. Paul has served as a Venture Partner at Third Rock Ventures, a healthcare venture firm, where he previously served as a Venture Partner from 2010 to 2014. 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 National Academy 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.</p> <p><b>Key Contributions to the Board</b></p> <p>Dr. Paul brings to our board more than 25 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 early research, including in the CNS, and late stage clinical development pipeline, initiate additional clinical programs and further develop our global commercial operations following the approval and launch of three commercial products in less than three years.</p>
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<p><b>Colleen F. Reitan</b></p> <p><b>Committees:</b></p> <ul style="list-style-type: none"><li>• Audit Committee</li></ul> <p><b>Director since: 2018</b> <b>Age: 61</b></p>	<p>Ms. Reitan has served as a member of our board of directors since June 2018.</p> <p><b>Experience, Expertise and Qualifications</b></p> <p>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 2015 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. Ms. Reitan also serves as a director of Myriad Genetics, Inc.</p> <p><b>Key Contributions to the Board</b></p> <p>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 further develop our global commercial operations following the approval and launch of three commercial products in less than three years, Ms. Reitan's experience with provider network management, strategic planning and business development provide valuable insight to our board and management as we continue to advance our ongoing commitment to provide innovative value based agreements and deliver fair value to payers and providers. Ms. Reitan's extensive background in business management also makes her an asset to our audit committee on which she serves.</p>
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<p><b>Amy W. Schulman</b></p> <p><b>Committees:</b></p> <ul style="list-style-type: none"><li>• People, Culture and Compensation Committee (Chair)</li><li>• Nominating and Corporate Governance Committee</li></ul> <p><b>Director since: 2014</b> <b>Age: 60</b></p>	<p>Ms. Schulman has served as a member of our board of directors since July 2014.</p> <p><b>Experience, Expertise and Qualifications</b></p> <p>Ms. Schulman joined Polaris Partners, a venture capital firm, in August 2014 where she is currently a managing partner. Ms. Schulman currently serves as Chair of the Board of SQZ Biotech, as well as Executive Chair of Lyndra Therapeutics, Inc., where she was co-founder and the company's initial Chief Executive Officer from 2015 to 2019. She also manages the LS Polaris Innovation Fund which was formed in 2017. 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 Hudson Executive Investment Corp. and Hudson Executive Investment Corp. II, and formerly served as a director of Cycleron Therapeutics, Inc., Ironwood Pharmaceuticals, Inc., Arsanis, Inc., Blue Buffalo Pet Products, Inc. and BIND Therapeutics, Inc.</p> <p><b>Key Contributions to the Board</b></p> <p>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 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 and enhance our diversity and inclusion initiatives to support the advancement of our late stage clinical development pipeline and further develop our global commercial operations following the approval and launch of three commercial products in less than three years. This experience also provides a unique and critical perspective for Ms. Schulman in her role as the chair of our PC&amp;C committee.</p>
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## Class I—Directors Whose Terms Expire in 2023

<p><b>Michael W. Bonney</b> Chair of the Board</p> <p><b>Committees:</b></p> <ul style="list-style-type: none"><li>• Audit Committee</li><li>• Nominating and Corporate Governance Committee</li></ul> <p><b>Director since: 2014</b> <b>Age: 62</b></p>	<p>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.</p> <p><b>Experience, Expertise and Qualifications</b></p> <p>Mr. Bonney has served as the Chair of the board of directors of Kaleido Biosciences, Inc., a biotechnology company, since June 2017. From August 2018 until October 2020, he served as Kaleido's Executive Chair, and previously served as Kaleido's Chief Executive Officer from June 2017 until August 2018. 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 &amp; 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 Bristol-Myers Squibb Company. Mr. Bonney formerly served as a director of Celgene Corporation (which was acquired by Bristol-Myers Squibb), Syros Pharmaceuticals, Inc., Sarepta Therapeutics, Inc. and Global Blood Therapeutics, Inc.</p> <p><b>Key Contributions to the Board</b></p> <p>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 further develop our global commercial operations following the approval and launch of three commercial products in less than three years.</p>
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<p><b>John M. Maraganore, Ph.D.</b> Chief Executive Officer</p> <p><b>Director since: 2002</b> <b>Age: 58</b></p>	<p>Dr. Maraganore has served as our Chief Executive Officer and as a member of our board of directors since December 2002.</p> <p><b>Experience, Expertise and Qualifications</b> 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 director of Agios Pharmaceuticals, Inc., as a member of the Board of the Biotechnology Innovation Organization (BIO), a non-profit biotechnology trade organization, of which he was previously Chair, and as a member of the BIO Executive Committee. Dr. Maraganore formerly served as a director of bluebird bio, Inc.</p> <p><b>Key Contributions to the Board</b> Dr. Maraganore has over 35 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.</p>
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<p><b>Phillip A. Sharp, Ph.D.</b></p> <p><b>Committees:</b></p> <ul style="list-style-type: none"><li>• Science and Technology Committee (Chair)</li></ul> <p><b>Director since: 2002</b> <b>Age: 76</b></p>	<p>Dr. Sharp 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. Sharp offered his resignation to the board of directors upon reaching the age of 75. After considering Dr. Sharp'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. Sharp's resignation and Dr. Sharp was re-elected as a director at the 2020 annual meeting of stockholders.</p> <p><b>Experience, Expertise and Qualifications</b></p> <p>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 National Academy of Medicine and the American Academy of Arts and Sciences. Dr. Sharp also serves as a director of Syros Pharmaceuticals, Inc. and Vir Biotechnology, Inc. and formerly served as a director of Biogen Inc., which he co-founded in 1978.</p> <p><b>Key Contributions to the Board</b></p> <p>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.</p>
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# THE BOARD OF DIRECTORS AND ITS COMMITTEES

## Board of Directors Meetings and Attendance

Our board met six times during 2020 either in person or by teleconference. During 2020, 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, except for Dr. Brandicourt, who attended approximately 71% of such meetings. Dr. Brandicourt missed the 75% threshold due to an emergency medical matter that caused him to be hospitalized and miss a committee and board meeting on successive days in December 2020, which were Dr. Brandicourt's only absences in 2020. Dr. Brandicourt has attended all board and PC&C committee meetings occurring to date in 2021, and in discussions with Dr. Brandicourt, he has re-affirmed his commitment to attend all scheduled meetings of the board and the committees on which he serves, absent illness or a family emergency.

Our directors are expected to participate in the virtual annual meeting of stockholders, unless they have a conflict that cannot be resolved. All of our then-current directors attended the 2020 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 Mses. Fanucci, Reitan and Schulman, Drs. Ausiello, Brandicourt, Hamburg, Paul 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, PC&C 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, and, approves the compensation of our chief executive officer after considering the



recommendations of our PC&C committee. Our board 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 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: the COVID-19 pandemic and its impact on our business, financial condition and results of operations; 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 manage our expenses, access additional funding for our business and advance towards self-sustainability; 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 individually and with our chief legal officer 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. Our audit committee also oversees our internal audit function, which was established in 2019. The primary purpose of the internal audit function is to provide independent, objective assurance to senior management and the audit committee regarding the adequacy, efficiency and effectiveness of internal controls, which are designed to add value and strengthen our business operations. The PC&C 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. Our chief ethics and compliance officer, individually and with our chief legal officer, our chief information officer, and chief technical operations and quality officer each 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, John K. Clarke, a co-founder of Alnylam and former independent director, served as our chair from the founding of Alnylam in 2002. Dr. Maraganore has 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, PC&C, 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](http://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, PC&C, 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 31, 2021 are shown in the table below.

	Audit Committee	People, Culture and Compensation Committee	Nominating and Corporate Governance Committee	Science and Technology Committee
Dennis A. Ausiello, M.D.			●	●
Michael W. Bonney ★	●		●	
Olivier Brandicourt, M.D.		●		
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	●			
Amy W. Schulman		●	●	
Phillip A. Sharp, Ph.D.				●

★ Chair of Board ● Committee Chair ■ Member

## **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, financial guidance and disclosure of non-GAAP financial measures;
- 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;
- overseeing the performance of internal audit activities carried out by our internal audit function;
- 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 Mses. Fanucci (Chair) and Reitan and Mr. Bonney. 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 member of the audit committee 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 six times during 2020, either in person or by teleconference.

## ***People, Culture and Compensation Committee***

Our PC&C committee's (formerly the compensation committee) 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 the development, implementation and effectiveness of our policies and strategies regarding recruiting, retention, career development and progression, leadership development, diversity, inclusion and employment practices;
- overseeing and administering our stock-based compensation plans and 401(k) plan, and performing the duties imposed on the PC&C committee by the terms of those plans;
- reviewing and making recommendations to our board with respect to director compensation, including compensation under any equity-based plans;
- 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 50 of this proxy statement;
- preparing the annual PC&C 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;
- overseeing engagement with stockholders and proxy advisory firms on executive compensation matters; and
- performing an annual evaluation of the committee's performance.

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

In 2020, our board approved, at the recommendation of our nominating and corporate governance committee, changing the name of the “compensation” committee to the “people, culture and compensation” committee to more accurately reflect the remit of the committee, given its increased focus on the topics of people and culture. The current members of our PC&C committee are Ms. Schulman (Chair) and Drs. Brandicourt and Paul. In May 2020, Dr. Schimmel resigned from our board and as a member of our PC&C committee, at which time Dr. Brandicourt was appointed as a member of the committee. We believe that each member of our PC&C 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 PC&C committee met four times during 2020, either in person or by teleconference.

#### *PC&C Committee Interlocks and Insider Participation*

During fiscal year 2020, none of the members of our people, culture and compensation committee was a current or former officer or employee of Alnylam and none had any related person transaction involving Alnylam.

During fiscal year 2020, no executive officer of our company served as: (i) a member of the PC&C 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 PC&C committee; (ii) a director of another entity, one of whose executive officers served on our PC&C committee; or (iii) a member of the PC&C 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 PC&C committee has discussed the concept of risk as it relates to our executive compensation program and PC&C 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 people, culture and compensation committee endorses, several controls to address and mitigate compensation-related risk.

We engaged our outside consultant, Radford, to assist the PC&C committee in updating its evaluation of our policies and practices to determine if they create excessive risk in our compensation programs. Given our transition over the last several years to being a global, commercial organization, this updated evaluation included an assessment of the potential risks associated with field-based incentive compensation and commercial-related goals and targets, as well as other changes to our compensation policies and practices. 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 in February 2021, and management provided the results of the review to the PC&C committee. As a result, the PC&C committee concluded that our compensation policies and practices are not reasonably likely to have a material adverse effect on the company. The PC&C committee will continue to evaluate on an ongoing basis the potential risks associated with our compensation policies and practices with input from its compensation consultant and internal and external counsel.

### ***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;
- developing and recommending to our board, as appropriate, policies and programs with respect to environmental, health, safety, social responsibility and governance matters;
- overseeing the regular evaluation of our board and its committees;
- overseeing management's implementation of information technology policies;
- reviewing our significant corporate governance and board succession risks and steps taken to monitor and mitigate such risks, including succession planning for the board and key leadership roles on the board and its committees;
- overseeing the management of operational risk and contingency planning for business continuity;
- 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 regularly conducts board self-evaluations through a third party to determine whether our board of directors and its committees are functioning effectively, and to provide our board with an opportunity to reflect upon and improve processes and effectiveness. 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, which considers the results and ways in which board processes and effectiveness may be enhanced. 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. Based on input received from the board in the 2019 evaluation, certain actions were prioritized in 2020, including devoting more board time to commercialization, global operations and business strategy topics, relative to R&D matters, and increasing oversight attention directed to cybersecurity risks and mitigations, among others.

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.”

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 five times during 2020, 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, Hamburg and Paul. In May 2020, Dr. Schimmel resigned from our board and as a member of our science and technology committee, at which time Dr. Hamburg was appointed as a member of the committee.

Our science and technology committee met one time by teleconference during 2020.

### **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 include a commitment to diversity, and 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;
- a demonstration of business acumen, experience and the ability to appreciate the operational challenges and complexities faced by public biopharmaceutical companies of a size and operational scope similar to our company and 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, the nominating and corporate governance committee is committed to recruitment protocols to actively seek out highly qualified diverse candidates (including women and minority candidates) to include in the pool from which board nominees are chosen, and any search firm will affirmatively be instructed to seek to include diverse candidates. 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 II Directors (Proposal 1)” indicate each nominee’s 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.

[Table of Contents](#)

The table below provides information regarding the members of our board, including certain types of knowledge, skills, experiences and attributes possessed by one or more of our directors which our board believes are relevant to our business or industry. The table does not encompass all of the knowledge, skills, experiences or attributes of our directors, and the fact that a particular knowledge, skill, experience or attribute is not listed does not mean that a director does not possess it. In addition, the absence of a particular knowledge, skill, experience or attribute with respect to any of our directors does not mean the director in question is unable to contribute to the decision-making process in that area. The type and degree of knowledge, skill and experience listed below may vary among the members of the board.

	Austriello	Bonney	Brandicoast	Fanucci	Hamburg	Maraganore	Paul	Pyott	Raitan	Schulman	Stang
<b>Knowledge, Skills, Experience and Independence</b>											
Biopharma Industry Experience	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Executive/Leadership Experience	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Financial Expertise	✓	✓	✓	✓		✓	✓	✓	✓	✓	
Academic Experience or Technological Background	✓		✓		✓	✓	✓				✓
Business Strategy/Operations Experience	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Public Company CEO Experience		✓	✓			✓	✓	✓			
International Business Experience		✓	✓				✓	✓		✓	
Independence	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
<b>Demographics</b>											
Age	75	62	65	67	65	58	70	67	61	60	76
Gender	M	M	M	F	F	M	M	M	F	F	M
Ethnic or Racial Diversity					✓						
<b>Board Tenure</b>											
Years	9	6	1	10	2	18	10	5	2	6	18

The tables below 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., 675 West Kendall Street, Henri A. Termeer Square, 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. Ausiello and Brandicourt, Ms. Fanucci and Mr. Pyott, each of whom currently serves on our board of directors. Drs. Ausiello and Brandicourt, Ms. Fanucci and Mr. Pyott 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 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., 675 West Kendall Street, Henri A. Termeer Square, Cambridge, Massachusetts 02142.

## 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 PC&C committee periodically reviews the compensation we pay our non-employee directors, with input from its independent compensation consultants. Our PC&C committee compares our board compensation to compensation paid to non-employee directors of our peer group companies. Our PC&C committee also considers the responsibilities we ask of our board members along with the amount of time required to perform those responsibilities. In February 2020, our PC&C committee, with the assistance of Radford, performed a comprehensive review of director compensation. Following this review, the PC&C committee and our board of directors determined to adjust certain elements of the cash compensation paid to our non-employee directors, to be more competitive with our peer group. In addition, based on the results of this review and consistent with our broader equity strategy to transition from a unit-based to a value-based approach for determining equity awards, the PC&C committee and our board of directors determined to transition to a value-based equity approach and reduce the initial and annual stock option award value for non-employee directors to align with our peer group.

The table below reflects the non-employee director compensation that was in effect through March 2020 as well as the changes (in italics) to non-employee director compensation that were approved in February 2020, and were effective as of April 1, 2020 with respect to fees and, as of March 2, 2020, with respect to initial and annual stock option awards. Increases in fees were pro-rated for 2020 based upon the date of approval and each non-employee director's committee appointments, as applicable.

Compensation Type	Compensation Amount Before April 1, 2020	Compensation Amount as of April 1, 2020
Annual Retainer	\$50,000	<i>\$55,000</i>
Board Chair Fee	\$30,000	<i>\$35,000</i>
Committee Chair Fees:		
Audit	\$25,000	\$25,000
People, Culture and Compensation	\$20,000	\$20,000
Nominating and Corporate Governance	\$10,000	<i>\$15,000</i>
Science and Technology	\$10,000	<i>\$15,000</i>
Committee Member Fees:		
Audit	\$10,000	<i>\$12,500</i>
People, Culture and Compensation	\$10,000	\$10,000
Nominating and Corporate Governance	\$5,000	<i>\$7,500</i>
Science and Technology	\$5,000	<i>\$7,500</i>
Initial Stock Option Award (vests ratably in three annual installments)	18,000 shares**	<i>\$600,000</i> grant-date fair value**
Annual Stock Option Award (vests on one-year anniversary)*	9,000 shares**	<i>\$400,000</i> grant-date fair value**

## [Table of Contents](#)

- \* 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.
- \*\* Effective March 2, 2020, our board of directors approved a value-based approach for determining equity awards for non-employee directors. These values reflect a reduction in value transferred relative to prior unit-based award amounts.

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 Stock Incentive Plan, as amended, or the 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.

As noted above, in February 2020, our board of directors, following the recommendation of our PC&C committee, adjusted certain elements of compensation for non-employee directors. In connection with these changes, our board of directors approved a maximum aggregate value for initial and annual non-employee director compensation, including the value of the shares of common stock that may be subject to initial or annual equity awards to non-employee directors, equal to \$1.5 million and \$1.0 million, respectively. The aggregate value limits replace the previous limits in the 2018 Plan that only related to equity awards. In May 2020, our stockholders approved a second amendment to our 2018 Plan, which included these maximum aggregate values for initial and annual non-employee director compensation.

As indicated in the table above, our current practice is to deliver aggregate compensation to our non-employee directors in amounts well under these aggregate limits, and we do not expect to change our current practice.

The following table sets forth information concerning the compensation of our non-employee directors in 2020.

### Director Compensation

Name	Fees Earned or Paid in Cash (\$)	Option Awards (\$)(3)(4)(5)	All Other Compensation (\$)	Total (\$)
Dennis A. Ausiello, M.D.	67,500	400,286	—	467,786
Michael W. Bonney	106,250	400,286	—	506,536
Olivier Brandicourt, M.D.(1)	52,083	597,791	—	649,874
Marsha H. Fanucci	85,625	400,286	—	485,911
Margaret A. Hamburg, M.D.	58,750	400,286	—	459,036
Steven M. Paul, M.D.	70,625	400,286	—	470,911
David E.I. Pyott	67,500	400,286	—	467,786
Colleen F. Reitan	65,625	400,286	—	465,911
Paul R. Schimmel, Ph.D.(2)	36,042	480,000	—	516,042
Amy W. Schulman	80,625	400,286	—	480,911
Phillip A. Sharp, Ph.D.	67,500	400,286	25,000(6)	492,786

## Table of Contents

- (1) Dr. Brandicourt was elected to our board of directors effective March 2, 2020.
- (2) Dr. Schimmel resigned from our board of directors effective May 6, 2020. Amount includes \$480,000 in the Option Awards column to reflect the incremental fair value recognized for stock options granted prior to 2020 for which vesting was accelerated in May 2020 in connection with Dr. Schimmel's resignation.
- (3) The amounts in this column reflect the aggregate grant date fair value for the fiscal year ended December 31, 2020, 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 14 to our audited consolidated financial statements for the fiscal year ended December 31, 2020 included in our Annual Report on Form 10-K, filed with the SEC on February 11, 2021.
- (4) At December 31, 2020, 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 Stock Options for Board Service(#)	Number of Shares Underlying Outstanding Stock Options for Non-Board Service(#)
Dennis A. Ausiello, M.D	56,331	—
Michael W. Bonney	86,331	—
Olivier Brandicourt, M.D.	8,612	—
Marsha H. Fanucci	71,331	—
Margaret A Hamburg, M.D.	31,581	—
Steven M. Paul, M.D.	104,719	—
David E.I. Pyott	70,081	—
Colleen F. Reitan	31,581	—
Paul R. Schimmel, Ph.D.	51,750(a)	2,310(b)
Amy W. Schulman	86,331	—
Phillip A. Sharp, Ph.D.	150,001	—

- (a) Dr. Schimmel 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) Dr. Schimmel received these stock options in December 2020 in connection with his service on our scientific advisory board, following his resignation from our board. Dr. Schimmel did not receive any compensation for his service on our scientific advisory board during the time that he served on our board. These stock options vest in full on the one-year anniversary of the grant date.

- (5) The number of shares underlying stock options granted to our non-employee directors for their service on our board during 2020 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 2020(#)	Grant Date Fair Value of Stock Option Grants in 2020 (\$)(c)
Dennis A. Ausiello, M.D.	7/1/2020	4,581	400,286
Michael W. Bonney	7/1/2020	4,581	400,286
Olivier Brandicourt, M.D.(a)	3/2/2020	8,612	597,791
Marsha H. Fanucci	7/1/2020	4,581	400,286
Margaret A. Hamburg, M.D.	7/1/2020	4,581	400,286
Steven M. Paul, M.D.	7/1/2020	4,581	400,286
David E.I. Pyott	7/1/2020	4,581	400,286
Colleen F. Reitan	7/1/2020	4,581	400,286
Paul R. Schimmel, Ph.D.(b)	12/2/2020	2,310	200,066
Amy W. Schulman	7/1/2020	4,581	400,286
Phillip A. Sharp, Ph.D.	7/1/2020	4,581	400,286

- (a) Dr. Brandicourt was granted a stock option award upon the effective date of his election to our board.
- (b) Dr. Schimmel resigned from our board, effective May 6, 2020, and accordingly, he did not receive a stock option award for his service as a director in 2020. Dr. Schimmel received a stock option grant in December 2020 in connection with his service on our scientific advisory board.
- (c) The grant date fair value computed in accordance with FASB ASC Topic 718 represents the value of stock options granted during 2020. The grant date fair value per option was \$87.38, with the exception of the initial board grant to Dr. Brandicourt, for which the grant date fair value per option was \$69.41. 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 March 2, 2020 grant and July 1, 2020 grants is \$114.78 and \$148.77, respectively.

- (6) This amount reflects compensation paid to Dr. Sharp for service as the chair of our scientific advisory board during 2020.



# SECURITIES OWNERSHIP

## OWNERSHIP OF OUR COMMON STOCK

The following table sets forth information regarding beneficial ownership of our common stock as of January 31, 2021, 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, our three other most highly compensated executive officers who were serving as executive officers on December 31, 2020, and our former president 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(2)	=	Total Beneficial Ownership(2)	Percentage of Common Stock Beneficially Owned(3)
<b>Holders of more than 5% of our common stock</b>						
FMR LLC(4)	16,091,945		—		16,091,945	13.8
The Vanguard Group(5)	10,526,424		—		10,526,424	9.0
Wellington Management Group LLP(6)	10,056,940		—		10,056,940	8.6
Baillie Gifford & Co.(7)	9,132,422		—		9,132,422	7.8
BlackRock, Inc.(8)	8,723,720		—		8,723,720	7.5

Name and Address of Beneficial Owner(1)	Number of Shares Owned(2)	+	Number of Shares Acquirable Within 60 Days(2)	=	Total Beneficial Ownership(2)	Percentage of Common Stock Beneficially Owned(3)
<b>Directors and Named Executive Officers</b>						
Dennis A. Ausiello, M.D.	3,500(9)		51,750		55,250	*
Michael W. Bonney	4,000(10)		81,750		85,750	*
Olivier Brandicourt, M.D.	—		2,871		2,871	*
Marsha H. Fanucci	—		66,750		66,750	*
Margaret A. Hamburg, M.D.	—		21,000		21,000	*
John M. Maraganore, Ph.D.	200,722(11)		985,286		1,186,008	1.0
Steven M. Paul, M.D.	1,000		100,138		101,138	*
David E.I. Pyott	27,900(12)		65,500		93,400	*
Colleen F. Reitan	—		21,000		21,000	*
Amy W. Schulman	—		81,750		81,750	*
Phillip A. Sharp, Ph.D.	266,899(13)		145,420		412,319	*
Yvonne L. Greenstreet, MBChB, MBA	5,227(11)		113,422		118,649	*
Akshay K. Vaishnav, M.D., Ph.D.	14,634(11)		268,296		282,930	*
Jeffrey V. Poulton	57(11)		53,014		53,071	*
Laurie B. Keating	2,668(11)		67,193		69,861	*
Barry E. Greene***	74,327(11)		612,284		686,611	*
<b>All current directors and current executive officers as a group (15 persons)</b>	<b>526,607</b>		<b>2,125,140</b>		<b>2,651,747</b>	<b>2.3</b>

\* Less than 1% of our outstanding common stock.

\*\* Joined as a director in March 2020.

\*\*\* Served as our president for a portion of 2020, resigned in September 2020.

(1) Unless otherwise indicated, the address of each stockholder is c/o Alnylam Pharmaceuticals, Inc., 675 West Kendall Street, Henri A. Termeer Square, 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, 2021.

(3) Percentage of beneficial ownership is based on 116,991,634 shares of our common stock outstanding as of January 31, 2021. Shares of common stock subject to options currently exercisable, or exercisable within 60 days of January 31, 2021, 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. 16 to a Schedule 13G filed by FMR LLC (previously known as FMR Corp.) with the SEC on February 8, 2021, as of December 31, 2020, 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 16,091,945 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 16,091,945 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.

## Table of Contents

- (5) According to Amendment No. 5 to a Schedule 13G filed by The Vanguard Group with the SEC on February 10, 2021, as of December 31, 2020, The Vanguard Group has shared power to vote 120,785 of the shares owned, sole dispositive power for 10,249,471 of the shares owned and shared dispositive power for 276,953 of the shares owned. The address of The Vanguard Group is 100 Vanguard Blvd., Malvern, PA 19355.
- (6) According to Amendment No. 9 to a Schedule 13G filed by Wellington Management Group LLP (formerly Wellington Management Company, LLP), or Wellington Management, with the SEC on February 3, 2021, as of December 31, 2020, Wellington Management, in its capacity as an investment adviser, may be deemed to beneficially own 10,056,940 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. Wellington Management has shared power to vote or to direct the vote with respect to 9,748,974 shares of our common stock and shared power to dispose or to direct the disposition of 10,056,040 shares of our common stock. The address of Wellington Management is 280 Congress Street, Boston, MA 02210.
- (7) According to Amendment No. 1 to a Schedule 13G filed by Baillie Gifford & Co. with the SEC on February 1, 2021, as of December 31, 2020, Baillie Gifford & Co. and/or one or more of its investment adviser subsidiaries, which may include Baillie Gifford Overseas Limited, on behalf of investment advisory clients, which may include investment companies registered under the Investment Company Act, employee benefit plans, pension funds or other institutional clients has the sole power to vote 8,129,769 of the shares owned, and sole dispositive power for 9,132,422 of the shares owned. The address of Baillie Gifford & Co. is Calton Square, 1 Greenside Row, Edinburgh EH1 3AN, Scotland, UK.
- (8) According to Amendment No. 4 to a Schedule 13G filed by BlackRock, Inc. with the SEC on January 29, 2021, as of December 31, 2020, BlackRock, Inc. has the sole power to vote or direct the voting of 8,723,720 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 52<sup>nd</sup> Street, New York, NY 10055.
- (9) Represents shares held in a trust, of which Dr. Ausiello's spouse is the trustee.
- (10) Represents shares held in a trust, of which Mr. Bonney is the trustee and over which he has sole voting and investment power.
- (11) Includes shares of our common stock contributed by Alynlyam to our 401(k) plan for the benefit of our NEOs through December 31, 2019: Dr. Maraganore, 3,133 shares; Dr. Greenstreet, 406 shares; Dr. Vaishnaw, 514 shares; Mr. Poulton, 57 shares; Ms. Keating, 434; and Mr. Greene, 3,002.
- (12) Represents shares held in a trust, of which Mr. Pyott is the trustee and over which he has sole voting and investment power.
- (13) Includes shares of our common stock held by the Phillip A. Sharp Revocable Trust, of which Dr. Sharp and his spouse are co-trustees. 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.

## **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, 2020, other than one transaction for Ms. Keating. On January 27, 2020, Ms. Keating acquired shares of common stock upon the exercise of a stock option pursuant to a Rule 10b5-1 trading plan. This acquisition was inadvertently omitted from the Form 4 filed on January 29, 2020, which reported both the exercise of the stock option and the subsequent sale of such acquired shares. The acquisition of the shares was subsequently properly reported on a Form 4 filed with the SEC on February 12, 2020.

## 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, 2021 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.**, 58, 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 director of Agios Pharmaceuticals, Inc., as a member of the Board of the Biotechnology Innovation Organization (BIO), a non-profit biotechnology trade organization, of which he was previously Chair, and as a member of the BIO Executive Committee. Dr. Maraganore formerly served as a director of bluebird bio, Inc.

**Yvonne L. Greenstreet, MBChB, MBA**, 58, has served as our President since October 2020 and as 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 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 director of Pacira BioSciences, Inc. and American Funds. Dr. Greenstreet formerly served as a director of Indivior PLC and Moelis & Company.

**Akshay K. Vaishnav, M.D., Ph.D.**, 58, 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. Vaishnav held various positions at Biogen Inc., a biopharmaceutical company. Dr. Vaishnav serves as a director of Editas Medicine, Inc. and Scholar Rock Holding Corporation.

**Laurie B. Keating, J.D.**, 67, 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 the founding Chief Executive Officer and a director of venture-backed 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 is now a part of Morgan, Lewis & Bockius).

**Jeffrey V. Poulton**, 53, has served as our Executive Vice President and Chief Financial Officer since August 2019. Prior to joining Alnylam, Mr. Poulton served as Chief Financial Officer of Indigo Agriculture, a plant microbiome company, from January 2018 to April 2019, where he supported the initial commercial scale-up of the business, including expansion outside the U.S. Between 2003 and December 2017, Mr. Poulton held various roles of increasing responsibility at Shire Plc, most recently as Chief Financial Officer and a member of Shire's Executive Committee and Board of Directors from January 2015 to December 2017. During his tenure at Shire, Mr. Poulton also led Shire's rare disease U.S., LATAM, and Asia Pacific commercial operations, as well as Shire's global rare disease business unit. Prior to Shire, Mr. Poulton led corporate finance and business development initiatives in both the gas and electric utilities industry and the materials manufacturing sector, serving in financial leadership positions at Cinergy Corp and PPG Industries. Mr. Poulton also serves as a member of the board of directors of Homology Medicines, Inc., and served in the United States Navy as a Commissioned Officer.

# EXECUTIVE COMPENSATION

## COMPENSATION DISCUSSION AND ANALYSIS

### Executive Summary

Our PC&C 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 and our senior vice presidents. Our PC&C committee formally approves the compensation of our NEOs (with the exception of our chief executive officer, or CEO), executive vice presidents and senior vice presidents. Our PC&C committee reviews the compensation of our CEO and recommends any changes to our board for approval. 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 2020 are named below.

Name	Title
John M. Maraganore, Ph.D.	Chief Executive Officer
Yvonne L. Greenstreet, MBChB, MBA(1)	President, Chief Operating Officer
Akshay K. Vaishnaw, M.D., Ph.D.	President, Research and Development
Jeffrey V. Poulton	Executive Vice President, Chief Financial Officer
Laurie B. Keating	Executive Vice President, Chief Legal Officer and Secretary
Barry E. Greene(2)	Former President

(1) Dr. Greenstreet was appointed as our President effective October 1, 2020.

(2) Mr. Greene served as our President through September 30, 2020, the effective date of his resignation from Alnylam.

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

#### 2020 Say-on-Pay Results

We pay careful attention to any feedback we receive from our stockholders about our executive compensation program. At our 2020 annual meeting, our say-on-pay proposal received support from 96% of the votes cast by our stockholders on the matter. Our PC&C committee believes that the stockholders, through this advisory vote, generally endorsed our compensation philosophy and principles, thus, our PC&C committee maintained the basic structure and design of our executive

compensation program for fiscal year 2020, except as described below. As shown below, 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 PC&C 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 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. We describe the key decisions implemented by our PC&C committee below under the heading “Significant Compensation Decisions in 2020.”

### 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 amended for our CEO in 2020, 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.



## **Alnylam's Policies and Practices**

- **Emphasis on long-term performance**

Executive compensation should reflect alignment with the interests of stockholders. For 2020, 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.

- **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.

- **Good standing requirement**

We require our executive officers and all other employees to be in good standing in order to be eligible for awards under our short-term cash incentive programs.

- **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.

- **Independent compensation consultant**

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

- **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, which misconduct results 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 prior to such financial restatement.

- **No hedging**

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

- **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.

- **Stock ownership guidelines**

We maintain stock ownership guidelines for our CEO and, beginning in 2020, all of our executive officers.

- **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.

## Select Business Highlights For 2020

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. By harnessing the RNAi pathway, we have developed 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 proteins implicated in causing disease, 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.

Despite headwinds from the COVID-19 pandemic, we believe 2020 was a year of remarkable performance for Alnylam, as we continued to make significant progress on our commercial, clinical development and other corporate goals, enabling execution on our *Alnylam 2020* strategy of building a multi-product global commercial company with a deep clinical pipeline to fuel future growth and a robust product engine for sustainable and organic innovation. We ended 2020 exceeding these *Alnylam 2020* goals, with four marketed products and 12 clinical programs, including six in late-stage development. Most importantly, in 2020 we saw continued and steady growth of patients on our commercially approved products, driven by new patient finding, geographic expansion and evidence-generating activities. In addition to our commercial achievements, in November 2020, we received regulatory approval for our third RNAi therapeutic, OXLUMO (lumasiran) in the U.S. and European Union, or EU, for the treatment of primary hyperoxaluria type 1, or PH1, in all age groups. In December 2020, our fourth product, Leqvio (inclisiran), which is being developed and commercialized by our partner Novartis AG, or Novartis, received marketing authorization from the European Commission, or EC, for the treatment of adults with hypercholesterolemia or mixed dyslipidemia. We also recently reported positive topline results in a Phase 3 study completed in 2020 for vutrisiran, and plan to file a new drug application, or NDA, with the U.S. Food and Drug Administration, or FDA, in early 2021. In addition, we, together with our partners, advanced six 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, including by entering into a broad strategic financing collaboration with certain affiliates of The Blackstone Group Inc., or Blackstone, to accelerate our advancement of RNAi therapeutics, and believe the funding provided by financing collaboration with Blackstone will enable us to achieve a self-sustainable financial profile without the need for future equity financing. Based on our performance in 2020, our board determined that we achieved 120% of our corporate goals for fiscal year 2020, including all of our commercial execution and early- and mid-stage pipeline goals, along with all of our late-stage pipeline goals, strategic infrastructure, growth and growth management goals, and our research platform goals.

## SELECT BUSINESS HIGHLIGHTS FOR 2020

### COMMERCIAL ACHIEVEMENTS

- Recognized global net revenue of \$306.1 million for the year ended December 31, 2020 for ONPATTRO (patisiran), our marketed product approved in the U.S. for the treatment of the polyneuropathy of hereditary transthyretin-mediated amyloidosis, or hATTR amyloidosis, in adults, and in the EU for the treatment of hATTR amyloidosis in adult patients with stage 1 or stage 2 polyneuropathy, as well as in other countries
- Attained approximately 1,350 patients worldwide on commercial ONPATTRO treatment as of December 31, 2020
- Recognized global net revenue of \$55.1 million for the year ended December 31, 2020 for GIVLAARI (givosiran), our marketed product approved in the U.S. for the treatment of adults with acute hepatic porphyria, or AHP, and in the EU for the treatment of AHP in adults and adolescents aged 12 years and older, as well as in other countries
- Attained approximately 200 patients worldwide on commercial GIVLAARI treatment as of December 31, 2020
- For the period following EMA and FDA approval of OXLUMO in late November 2020, achieved global net product revenues for the fourth quarter of approximately \$0.3 million representing initial patient demand in Europe

### CLINICAL & REGULATORY ACHIEVEMENTS

- Advanced robust pipeline ending 2020 with 12 commercial and active clinical-stage programs
- Received regulatory approvals for ONPATTRO in Brazil, Israel and Taiwan, and achieved market access in over 20 countries
- Received regulatory approvals for GIVLAARI in the EU, Brazil and Canada
- Received regulatory approval for OXLUMO in the U.S. and EU in the fourth quarter of 2020
- Our partner, Novartis, received marketing authorization for Leqvio from the EC in December 2020
- Reported positive topline results from the HELIOS-A Phase 3 study of vutrisiran in hATTR amyloidosis with polyneuropathy, with plans to file an NDA with the FDA in early 2021
- Reported positive topline results and six-month primary analysis results for the ILLUMINATE-B Phase 3 pivotal study of lumasiran in patients younger than six years of age with preserved renal function
- Completed enrollment in the ILLUMINATE-C Phase 3 study of lumasiran in patients of all ages with advanced PH1, with plans to report topline results in mid-2021
- Advanced early-stage pipeline, including cemdisiran for the treatment of complement-mediated diseases; ALN-AGT for the treatment of hypertension; ALN-HBV02 (VIR-2218) for the treatment of chronic hepatitis B virus infection in collaboration with our partner, Vir Biotechnology, Inc.; and ALN-HSD for the treatment of nonalcoholic steatohepatitis in collaboration with our partner, Regeneron

## BUSINESS AND STRATEGIC INITIATIVES

- Entered into a strategic financing collaboration with certain affiliates of Blackstone under which we will receive up to \$2 billion in financing; closed \$150 million R&D funding component
- Expanded exclusive licensing agreement with Vir Biotechnology, Inc. for the development and commercialization of RNAi therapeutics for infectious diseases to include the development and commercialization of RNAi therapeutics targeting SARS-CoV-2 and up to three additional targets focused on human host factors for SARS-CoV-2
- As part of our broader human capital management strategy, achieved hiring and growth management goals
- Named to Boston Globe's list of Top Places to Work for 2020 marking sixth year in a row on the list
- Received recognition as world's No. 3 biopharma employer from Science magazine based on more than 7,500 responses to its annual survey of the biotech and pharmaceutical industry

## FINANCIAL RESULTS

- Ended 2020 with \$1.87 billion in cash, cash equivalents and marketable securities
- Lowered non-GAAP operating loss for 2020 compared with the prior year, and grew top line product revenues by over 100%

## DISAPPOINTMENTS

- Our partner, Novartis, did not achieve approval for Leqvio (inclisiran) in the U.S., receiving a complete response letter from the FDA in December 2020, due to unresolved facility inspection-related conditions at a third-party manufacturing facility in Europe

## STOCKHOLDER RETURN

- Our three-year total stockholder return (TSR) for fiscal years 2018-2020 was 0.76% and our five-year TSR for fiscal years 2016-2020 was 6.66%. Our one-year TSR for 2020 was 12.85%

## 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 strategy and 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 2020

As noted above, our PC&C committee regularly reviews Alnylam's policies and program design for both our NEOs and all employees. With respect to our long-term equity incentive program, we 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 and dilution during a period of rapid growth, which included headcount growth of 42% from January 2018 to the end of 2020. In further support of these goals, beginning with annual

awards for 2019 (that were made in February 2020) and new hire awards in 2020, we transitioned from a unit-based to a value-based approach for determining equity awards for all employees, including our NEOs. Our PC&C committee, with input from Radford, the independent compensation consultant retained by our PC&C committee, reviewed the value-based guidelines for equity incentive compensation awards for 2020 (including the annual equity awards that were made in February 2021) for our NEOs and for all of our employees, and retained the guidelines established in 2019, subject to adjustment of annual awards based upon individual performance. In addition to the annual equity awards described above, in October 2020, the PC&C committee approved a one-time strategic performance-based stock unit, or PSU, award for all members of our management board, including the NEOs (but excluding the CEO). The purpose of this one-time strategic performance award was to align senior management and establish commitment around the achievement of a key development milestone supporting Alnylam's path to self-sustainability and to reward senior leaders who are critical to Alnylam achieving its long-term goals and vision. Our PC&C committee also evaluated the existing CIC benefits for our CEO and our other NEOs, originally put in place in November 2017, relative to our peer group and determined that the CEO's CIC agreement should be amended to align with prevailing market practices, increasing the benefit in the event of termination following a CIC from 18 to 24 months base salary and from 1.5 to 2 times target bonus. Finally, the PC&C committee evaluated, with assistance from Radford, our peer group and determined that certain changes were appropriate given our commercial transition, market capitalization and revenues.

### **Our Human Capital Response to the Covid-19 Pandemic**

In addition to the standard matters reviewed and considered by the PC&C committee during 2020 and the key actions of the committee described above, as part of its broad oversight of our human capital initiatives, the people, culture and compensation committee also considered the potential impact of the Covid-19 pandemic on Alnylam's compensation practices and policies, including on executive compensation. Following a review by Radford of Covid-19-related compensation adjustments implemented by companies in our peer group and the broader industry, it was determined that no adjustments to executive compensation were warranted.

However, our PC&C committee did endorse a number of changes to our broad employee benefit offerings, as well as certain additional benefit offerings, proposed and implemented by our management to support the health and well-being of our people. These changes and additional offerings included:

- certain workplace safety and benefits for our non-work-from-home staff, including temperature screening, a weekly voluntary testing program, personal protective equipment and free parking;
- various work/life flexibility initiatives, including flexible working arrangements, paid time off for Covid-19-related health and child/family care needs, and a company-wide initiative to reduce weekly meetings by 20%;
- additional paid time off, including increased vacation carry over into 2021, and paid caregiver leave; and
- various additional benefit offerings, including a technology stipend for work-from-home staff, enhanced child and elderly back-up care, enhanced health and wellness offerings, including virtual programming, and enhanced offerings for mental health support.

We understand that our >1,400 employees are our greatest asset and believe we have provided a comprehensive employee assistance program that is designed to support our employees' health and well-being during this time. In addition, in order to maintain a strong sense of connectedness with colleagues and Alnylam's mission, we held 18 company-wide meetings during 2020 with an average of 1,200 staff members from around the world logging into these video-conference meetings.

### **Role of the Compensation Consultant**

Pursuant to its charter, our PC&C 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 PC&C committee to do so. The PC&C committee has exercised this authority to engage Radford as an independent compensation consultant. Radford serves as an advisor to our PC&C 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 PC&C committee chair on the matters on which it has been retained. For 2020, we paid Radford approximately \$268,000 for advice and services provided to the PC&C committee by Radford in its capacity as an independent compensation consultant.

Our PC&C 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 PC&C 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 PC&C 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, directors and other matters, described above, in 2020, 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 2020, we paid Aon, the parent company of Radford, approximately \$572,000 for advice and services that were not related to executive compensation, director compensation and the related matters specified above, including for welfare plan consulting, insurance brokerage and actuarial, risk management and plan administration services with respect to our global employee benefit plans and programs, as well as compensation surveys. The decision to use Aon/Radford for such additional advice and services was made by management. While the PC&C 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, as well as the services provided to ensure transparency. The PC&C committee believes that the advice and services unrelated to executive compensation, director compensation and related matters that Radford provided to the company in 2020 did not impact advice and services that Radford provided to the PC&C committee on such 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 PC&C 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 our CEO and other executive officers, good standing requirements under cash incentive programs for eligibility to receive an award, 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.

We engaged our outside consultant, Radford, to assist the PC&C committee in updating its evaluation of our policies and practices to determine if they create excessive risk in our compensation programs. Given our transition over the last several years to being a global, commercial organization, this updated evaluation included an assessment of the potential risks associated with field-based incentive compensation and commercial-related goals and targets, as well as other changes to our compensation policies and practices. 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 in February 2021, and management provided the results of the review to the PC&C committee. As a result, the PC&C committee concluded that our compensation policies and practices are not reasonably likely to have a material adverse effect on the company. The PC&C committee will continue to evaluate on an ongoing basis the potential risks associated with our compensation policies and practices with input from its compensation consultant and internal and external counsel.

### **Committee Process for Setting Total Compensation**

Our CEO conducts an annual performance review of our NEOs (other than the CEO) and our PC&C committee conducts an annual performance review of our CEO, with the participation of our board chair. Our PC&C committee reviews the compensation of each member of our senior management team, approving compensation for our NEOs (with the exception of our CEO) and senior vice presidents and above. Our PC&C committee reviews the compensation of our CEO and recommends any changes to our board for approval. The committee may also review the compensation of our NEOs during the course of the year. The 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 PC&C committee and our full 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 2020, 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 2020 for the remaining members of our senior management team focused on contributions that were intended to drive achievement of the corporate goals and were approved by our chief executive officer. In 2020, our PC&C committee established the maximum cash bonus opportunity for each member of our senior management team for 2020 under the annual incentive program, representing a percentage of each individual's base salary.

Given that we are a global commercial organization, annual performance reviews and the determination of base salary merit increases, annual cash incentive awards and annual equity awards

for a given year occur in the first quarter of the following year. Accordingly, with respect to year-end 2020 compensation matters, our senior management team evaluated our corporate performance at the end of 2020 and the individual performance of employees, as compared to the corporate goals for that year, during the first quarter of 2021. During the first quarter of 2021, our CEO reviewed the performance of our NEOs (other than the CEO), and our PC&C committee, with input and recommendations from our CEO, evaluated each of these NEOs' compensation 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 PC&C committee, together with the Chair of our board of directors, evaluated our CEO's individual performance. Our PC&C committee determined whether to recommend to the full board for approval any change to the CEO's base salary, as well as the grant of an annual equity award and/or a cash award under our annual incentive program. Consistent with our year-end compensation process, our PC&C committee made grants of annual equity awards and determined changes in base salary and the amount of any annual cash incentive payments, in February 2021. Accordingly, equity awards made with respect to 2020 performance were not granted until 2021, and therefore, are not reflected in the executive compensation tables for 2020. Rather, the awards reflected in the executive compensation tables for 2020 were granted in respect of 2019 performance. The 2020 awards, granted in February 2021, are reflected in the tables included in this Compensation Discussion and Analysis to provide all details of compensation related to 2020 performance. Changes in base salary of our NEOs approved in February 2021 were effective as of March 1, 2021. The cash incentive payments awarded under our annual incentive program for 2020 were paid in March 2021.

## 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 PC&C 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

<b>Organizational Structure</b>	<ul style="list-style-type: none"><li>• Companies whose organizational structure, number of employees (headcount between 650 and 4,000) and positions, stage of development (early commercial), market capitalization (\$5.8 billion to \$52 billion, with emphasis on middle of the range), and product revenues (under \$1.5 billion) are similar to ours</li></ul>
<b>Executive Positions</b>	<ul style="list-style-type: none"><li>• Companies with similar executive positions to ours</li></ul>
<b>Executive Talent Pool</b>	<ul style="list-style-type: none"><li>• Companies against which we believe we compete for executive talent</li></ul>
<b>Operations in U.S.</b>	<ul style="list-style-type: none"><li>• Public companies with substantial operations in the U.S. whose compensation and financial data are available in proxy statements or other public documents</li></ul>



In addition to the criteria above, our PC&C 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, in light of our market capitalization, the recency of our commercial launches, the depth of our pipeline for the continued development of a new class of medicines and our rapid global growth. As such, Radford identified three categories of companies that were all considered for purposes of selecting a balanced group of peers: Large Biopharma; Similarly Situated Commercial; and Governance Peers meeting at least two selection criteria.

### 2020 Peer Group

Our PC&C 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 2019 peer group (used for compensation decisions made in calendar year 2020, including the annual equity awards for 2019 performance approved and granted in 2020) consisted of 18 companies operating in the biopharmaceutical/biotechnology industry. After consultation with Radford, the PC&C committee determined that five companies were no longer appropriate as peers on a go-forward basis for a variety of reasons, including market capitalization, size, recent regulatory developments and other considerations, and also selected two companies to be added as peer companies based primarily on our financial and business position as an early-stage commercial company in 2020. The 2020 peer group reflecting these changes and approved by our PC&C committee is shown below, with the new peer companies identified in italics. The 2020 peer group was used in connection with compensation decisions made in February 2021 relating to merit increases, salary market adjustments and annual equity awards for 2020 performance.

2020 Peer Group		
<i>Acceleron Pharma, Inc.</i>	Exelixis, Inc.	Neurocrine Biosciences, Inc.
Alexion Pharmaceuticals, Inc.	<i>Horizon Therapeutics plc</i>	Sarepta Therapeutics, Inc.
Alkermes plc	Incyte Corporation	Seagen Inc. (formerly Seattle Genetics, Inc.)
BioMarin Pharmaceutical Inc.	Ionis Pharmaceuticals, Inc.	Ultragenyx Pharmaceutical Inc.
bluebird bio, Inc.	Jazz Pharmaceuticals plc	United Therapeutics Corporation

From the 2019 peer group, the following companies were excluded as a peer for 2020: Agios Pharmaceuticals, Inc., Intercept Pharmaceuticals, Inc., Nektar Therapeutics, Sage Therapeutics, Inc. and Vertex Pharmaceuticals Incorporated.

### Compensation Benchmarking

To provide the appropriate context for executive pay decisions, our PC&C committee, in consultation with Radford, assessed the compensation practices and pay levels of our peer group. We believe that the compensation practices of our peer group are appropriate to reference in evaluating the compensation of our NEOs during 2020.

Notwithstanding the similarities of our peer group to Alnylam, due to the nature of our business, we compete for executive talent with many companies that are larger and more established than we are or that possess greater resources than we do, as well as with prestigious academic and non-profit institutions. In keeping with our pay-for-performance philosophy, actual compensation levels are correlated to the achievement of corporate goals. In addition, our PC&C committee uses competitive compensation data from the annual total compensation study of peer companies to inform its decisions about overall compensation opportunities and specific compensation elements. Additionally, the committee uses multiple reference points when establishing targeted compensation levels. The committee does not benchmark specific compensation elements or total compensation to any specific percentile relative to the peer companies or the broader U.S. market. Instead, the committee applies judgment and discretion in establishing targeted pay levels, taking into account not only competitive market data, but also factors such as experience level of the executive, scope of responsibility, critical needs and skill sets, leadership potential and succession planning, individual performance against established corporate goals, and contributions to the achievement of long-term strategic objectives.

Our PC&C committee continues to evaluate our equity incentive compensation and our long-term equity strategy, with continued assistance from Radford, and to make adjustments to equity incentive awards based upon our stock price and peer position. As noted above, beginning with annual awards for 2019 (that were made in February 2020) and new hire awards in 2020, we transitioned from a unit-based to a value-based approach for determining equity awards for all employees, including our NEOs. Our PC&C committee, with input from Radford, reviewed the value-based guidelines for equity incentive compensation awards for 2020 (including the annual equity awards that were made in February 2021) for our NEOs and for all of our employees, and retained the guidelines established in 2019, subject to adjustment of annual awards based upon individual performance. The guideline for award levels for NEOs for 2019 and 2020 was set between the 50<sup>th</sup> and 60<sup>th</sup> percentile of market, subject to adjustment for individual performance. We expect to continue to review our equity incentive compensation guidelines annually and to make adjustments in 2021 and beyond, as needed and dependent on our stock price and peer position, particularly in light of our continued global growth as we advance our commercialization efforts in 2021 and beyond.

### ***Other Key Performance Factors and Industry Specific Considerations***

The biopharmaceutical industry is characterized by a very long product development cycle, including a lengthy research and development period and a rigorous approval phase involving human testing and governmental regulatory approval. While we became a commercial-stage company in 2018 and have launched three products to date, we have not achieved profitability and therefore, several of the traditional benchmarking metrics, such as profits and earnings per share, remain inappropriate measures for Alnylam as we move towards our goal of self-sustainability. Accordingly, the specific performance factors our PC&C committee considers when determining the compensation of our NEOs include:

- key research and development achievements, including advances in RNAi delivery and technology and identification of new therapeutic areas and novel disease targets;
- initiation and progress of clinical trials, in particular late-stage programs;
- achievement of regulatory milestones, including regulatory filings for product approvals and regulatory approvals;

- establishment of global commercial and medical infrastructure and commercial launch readiness, as well as patient and physician education initiatives;
- revenue results, as well as other key metrics, including progress on pricing and reimbursement efforts, for our recently launched products;
- establishment and maintenance of key strategic relationships and new business initiatives;
- filing, prosecution, defense and enforcement of key intellectual property rights;
- success in our human capital management strategy, including development of global organizational capabilities, success in hiring, employee retention, growth management and diversity, equity and inclusion initiatives, executed with excellence, patient focus, safety, quality and compliance; and
- financial and operating performance.

These performance factors are considered by our PC&C committee in connection with our annual performance reviews and are a critical component in the determination of annual cash and equity incentive awards for our executives.

### **Compensation Objectives**

Our compensation programs are designed to attract, motivate and retain qualified and talented executives, motivating them to achieve our business goals and rewarding them for superior short- and long-term performance. In particular, our compensation programs are intended to reward the achievement of specified pre-determined quantitative and qualitative individual and corporate performance goals and objectives and to align the interests of our senior management team with those of our stockholders in order to attain our ultimate objective of increasing stockholder value.

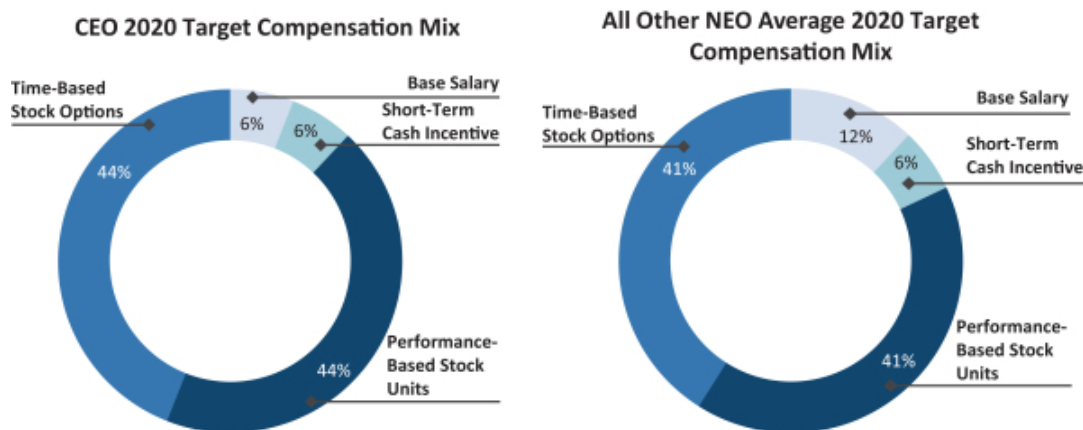
### **Components of our Compensation Program**

As discussed above, the guiding principle of our compensation program is to provide a compensation structure that allows Alnylam to attract and retain highly qualified executive talent and to motivate such executives to achieve clinical, business and financial goals that create value for stockholders in a manner consistent with our core business and leadership values. Three primary components make up Alnylam's executive pay program: base salary, short-term cash incentives and long-term equity incentives. We do not provide our executives with supplemental retirement benefits or personal perquisites.

## Each Compensation Element Serves a Unique Purpose

Compensation Element	Description	Strategic Role
<b>Base Salary</b>	<ul style="list-style-type: none"> <li>Fixed cash compensation</li> <li>Targeted within the range of the market median taking into consideration each NEO's individual performance, skills, experience and internal equity</li> </ul>	<ul style="list-style-type: none"> <li>Attracts and rewards high performing executives via market competitive pay and industry norms and reflects individual performance</li> </ul>
<b>Short-Term Cash Incentives—Variable Pay</b>	<ul style="list-style-type: none"> <li>Quantitative and qualitative performance objectives that are annually pre-determined and based on achievement of specific measures</li> <li>Cash incentives are awarded only if corporate performance against goals is at least 50%</li> <li>Awards capped at specified target percentage (130% for fiscal year 2020)</li> </ul>	<ul style="list-style-type: none"> <li>Drives company-wide and individual performance</li> <li>Rewards annual performance</li> <li>Motivates executives to achieve performance objectives that are key to our annual operating and strategic plans</li> <li>Aligns executive and stockholder interests</li> </ul>
<b>Long-Term Equity Incentives—Variable Pay</b>	<ul style="list-style-type: none"> <li>Value split 50% stock options and 50% PSUs</li> <li>Annual equity awards take the form of a 50/50 mix of multi-year time- and performance-based vesting upon achievement of clinical development, regulatory and/or commercial milestones</li> <li>Equity awards for 2020 performance were granted in February 2021</li> </ul>	<ul style="list-style-type: none"> <li>Encourages executives to achieve multi-year strategic objectives and clinical development, regulatory and commercial milestones</li> <li>Motivates executives to deliver sustained long-term growth</li> <li>Unique position within our peer group focused on significant use of performance-based vesting for equity awards to align executive and stockholder interests through long-term value creation</li> <li>Enhances retention of key talent</li> </ul>

The PC&C committee is committed to ensuring that a substantial portion of executive compensation is “at-risk” and variable. As such, 94% of our CEO’s total direct compensation for 2020 and, on average, 88% of our other NEOs’ total direct compensation for 2020, is variable and directly affected by both the company’s and each NEO’s performance. In addition, for both our CEO and our other NEOs, 50% of annual equity compensation was made up of performance-based equity awards beginning in 2013. Awards with respect to 2020, which were granted in February 2021, were a mix of time-based stock options and PSUs.



Note: The figures above exclude Mr. Greene as a result of his resignation in September 2020. We included the annual equity awards made in 2020 with respect to 2019 performance, as reflected in the Summary Compensation Table for 2020 compensation below. With respect to the PSUs reflected above, we assumed that as of the grant date it was probable that 100% of the performance conditions would be achieved. See Note 4 of the Summary Compensation Table below for additional information regarding the treatment of PSUs. Equity awards made for 2020 performance were granted in February 2021 and are not reflected above.

### Base Salary

Our PC&C committee typically determines the base salary for each new executive based on the executive's responsibilities and experience. In addition, our PC&C committee reviews and considers the level of base salary paid by companies in our peer group for similar positions.

Merit-based increases in base salary for all of our continuing executive officers, other than our CEO, are approved by our PC&C committee based upon a recommendation from our CEO. Any merit-based increase in base salary for our CEO is based upon an assessment of his performance by our PC&C committee and a review by our PC&C committee of the base salaries of chief executive officers in our peer group. Our PC&C committee recommends any changes to our CEO's base salary to our board for review and approval.

During the first quarter of 2021, our PC&C committee approved increases for 2021 base salary for each of our NEOs other than our CEO, and recommended a base salary increase for our CEO to our board for approval, which our board approved. These increases, reflected below, were effective as of March 1, 2021 and were based upon the company's performance against the corporate goals in 2020, as well as each NEO's individual contribution in 2020 to the achievement of those corporate goals, and a review by our PC&C committee of the base salaries of comparable NEOs in our 2020 peer group. Despite a significant gap in Dr. Maraganore's base salary relative to the market median and impressive execution by Dr. Maraganore's against the 2020 corporate goals, his annual increase was consistent with the approved merit increase for all employees. Our PC&C committee intends to continue to assess Dr. Maraganore's base salary and further adjust it as necessary in future years to continue to address this gap.

The table below sets forth the 2021 and 2020 base salaries, in dollars, and the adjustment to base salaries, as a percentage, for each of our NEOs.

### Base Salary Adjustments

Name*	2021 Base Salary(\$)	2020 Base Salary(\$)*	Increase(%)
John M. Maraganore, Ph.D.	952,800	925,000	3
Yvonne L. Greenstreet, MBChB, MBA	621,915	603,800	3
Akshay K. Vaishnav, M.D., Ph.D.	635,000	616,500	3
Jeffrey V. Poulton	575,000	537,600	7**
Laurie B. Keating	545,900	530,000	3

\* Mr. Greene resigned from the company in September 2020 and therefore, he has been excluded from the table.

\*\* Includes a market adjustment of 4% to address a gap in Mr. Poulton's base salary relative to the market median.

### Short-Term Incentives—2020 Annual Incentive Program

Annual cash incentives are paid to our NEOs through Alnylam's Annual Incentive Program, or AIP. Our short-term incentive structure is intended to align NEOs' interests directly with Alnylam's corporate goals. In making its determination regarding awards for 2020 under the AIP for our NEOs, our PC&C committee and our board considered our success against pre-established 2020 corporate goals. Based on our performance in 2020, our board determined that we achieved 120% of our corporate goals for fiscal year 2020, including all of our commercial execution and early- and mid-stage pipeline goals, along with all of our late-stage pipeline goals, strategic infrastructure, growth and growth management goals, and our research platform goals, as well as the majority of our "stretch" goals.

### Annual Metrics and Goal Assessment

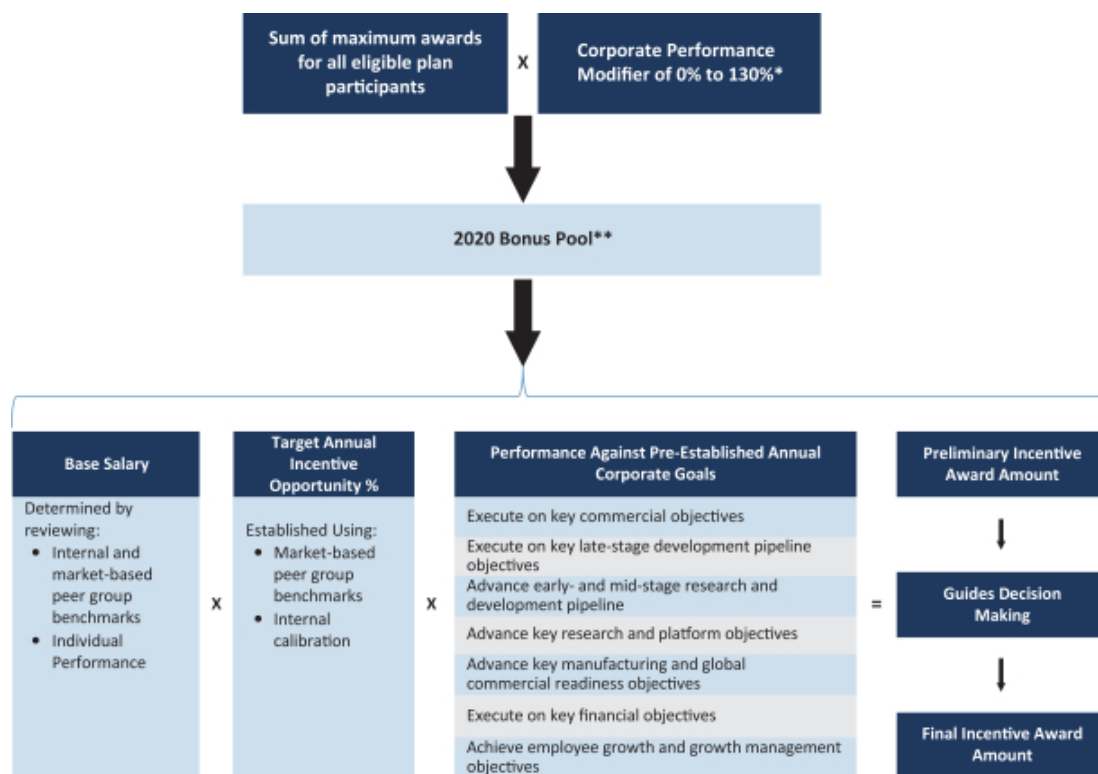
The 2020 corporate goals approved by our board, the relative weightings assigned to each goal, our actual achievement during the performance period as a percentage of target and the weighted performance against these corporate goals for 2020, as approved by our PC&C committee and our full board in determining our NEOs compensation, were as follows:

## Annual Incentive Payout Matrix

2020 Corporate Goals	Relative Weighting(%)	Actual Achievement For 2020 (As % of Target)	Weighted Performance(%)
<ul style="list-style-type: none"> <li>• Execute on key commercial objectives, including:                             <ul style="list-style-type: none"> <li>ı Achieve ONPATTRO and GIVLAARI success, and prepare for lumasiran launch, focusing on patient impact;</li> <li>ı Stretch Goal—Exceed more aggressive ONPATTRO and GIVLAARI commercial metrics.</li> </ul> </li> </ul>	35	100	35
<ul style="list-style-type: none"> <li>• Execute on key late-stage development pipeline objectives, including:                             <ul style="list-style-type: none"> <li>ı Advance five late-stage clinical programs, including positive Phase 3 studies and one or more NDA/MAA, completing <i>Alnylam 2020</i> profile;</li> <li>ı Stretch Goal – Exceed certain specified pipeline advancement timelines.</li> </ul> </li> </ul>	25	100	25
<ul style="list-style-type: none"> <li>• Advance early- and mid-stage research and development pipeline, while managing operating expenses to support transition to self-sustainability</li> </ul>	15	100	15
<ul style="list-style-type: none"> <li>• Advance key research and platform objectives, including advancement of ESC+ GalNAc Conjugate Platform and ocular/CNS strategic therapeutic areas</li> </ul>	5	100	5
<ul style="list-style-type: none"> <li>• Advance key manufacturing and global commercial readiness objectives</li> </ul>	5	100	5
<ul style="list-style-type: none"> <li>• Execute on key financial objectives, including:                             <ul style="list-style-type: none"> <li>ı Maintain strong investment discipline by prioritizing pipeline and commercial investment opportunities and executing on plans to achieve self-sustainability;</li> <li>ı Stretch Goal—Execute key business development transaction.</li> </ul> </li> </ul>	10	100	10
<ul style="list-style-type: none"> <li>• Achieve employee growth and growth management objectives with excellence, patient focus, safety, quality and compliance</li> </ul>	5	100	5
<b>Approved 2020 Corporate Performance Level for NEOs</b>	<b>130</b>		<b>120*</b>

## Calculation of Annual Cash Incentives

Annual cash incentives were calculated as shown below.



\* If the 2020 corporate performance level was determined to be below 50%, then the corporate performance modifier would be 0% and no awards would be granted under the AIP.

\*\* Board of directors and/or PC&C committee has the discretion to make adjustments in connection with the AIP as it deems appropriate. Our board of directors did not exercise such discretion with respect to the determination of awards under the AIP for 2020.

Our PC&C committee aims to determine an appropriate mix of cash incentive opportunities and equity incentive grants to meet short- and long-term goals and objectives. In February 2020, our PC&C committee approved the target awards for 2020 under the AIP, including the opportunity for eligible participants to achieve incentive awards above established bonus targets based on the company's performance against 2020 corporate goals. No changes were made to the target award levels for our NEOs for 2020. Each potential bonus award for 2020 ranged from 0% to 130% of the individual's target award, thus making 130% of each individual's target award the maximum bonus award achievable in 2020 in the event the company met all of its corporate goals (100%) plus its stretch goals (30%).

The table below shows the target award under the 2020 AIP as a percentage of each NEO's annual base salary in 2020, assuming (1) all of the corporate goals were met but not providing additional credit for the achievement of any stretch goals, (2) the maximum cash award opportunity in dollars for 2020 that would be paid if all of the corporate goals were met and certain goals were



exceeded (stretch goals), (3) the actual cash bonus payments to our NEOs under the AIP for 2020 performance, which were paid in March 2021, and (4) the actual bonus payment as a percentage of the target award opportunity.

### 2020 Annual Incentive Program Awards

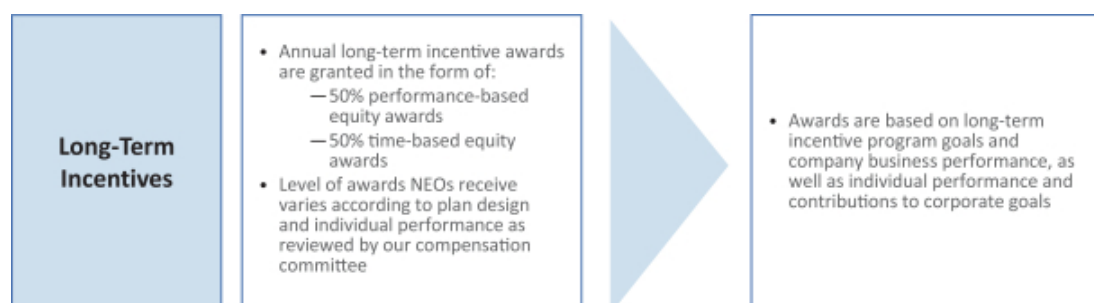
Name*	2020 Target Award (% of Base Salary)	2020 Target Award Opportunity(\$)	2020 Maximum Award Opportunity(\$)**	2020 Actual AIP Payout(\$)	2020 Actual AIP Payout (% of Target Award Opportunity)
John M. Maraganore, Ph.D.	100	925,000	1,202,500	1,110,000	120
Yvonne L. Greenstreet, MBChB, MBA	60	362,280	470,964	434,736	120
Akshay K. Vaishnaw, M.D., Ph.D.	60	369,900	480,870	443,880	120
Jeffrey V. Poulton	50	268,800	349,440	322,560	120
Laurie B. Keating	50	265,000	344,500	318,000	120

\* Mr. Greene resigned from the company, effective September 30, 2020. Under the terms of his separation agreement, described below, Mr. Greene received a cash bonus award under the AIP of \$376,380 based upon his 2020 annual salary and a target award opportunity of 60%.

\*\* Assuming 130% corporate performance modifier to account for stretch goals.

### Long-Term Incentives – 2020 Equity Awards

The market for qualified and talented executives in the biopharmaceutical industry is highly competitive and we compete for talent with many companies that have greater resources than we do. Accordingly, we believe equity compensation is a crucial component of any competitive executive compensation package we offer.



Our equity awards program is designed to:

- reward demonstrated leadership and performance;

- align our executive officers' interests with those of our stockholders through long-term value creation;
- affect pay-for-performance achievement;
- retain our executive officers through the vesting period of the awards;
- maintain competitive levels of executive compensation; and
- motivate our executive officers for outstanding future performance.

Historically, our equity awards have taken the form of stock options, which we believe further strengthens the long-term alignment between our executives and stockholders. We typically grant stock options to each of our executive officers upon commencement of employment and annually in conjunction with our review of individual performance. Beginning with the awards for 2018 performance, granted in February 2019, our PC&C committee determined that a 50/50 split between stock options and PSUs was more aligned with the achievement of our long-term equity strategy and growth objectives, our desire to maintain competitive levels of executive compensation and to underscore the strong performance orientation of both our long-term incentive equity and our overall executive compensation program.

Equity awards typically vary among our executive officers based on their positions and annual performance assessments. In addition, our PC&C committee reviews all components of each executive officer's compensation to ensure that his or her total compensation is aligned with our overall philosophy and objectives. Stock options granted to our executives have exercise prices equal to the fair market value of our common stock on the date of grant, so that the recipient will not earn any compensation from his or her stock options unless our stock price increases above the value on the date of grant. PSUs will only vest in the event that specified performance criteria are met and will vest no earlier than one year after the date of grant. Accordingly, each portion of our executive officers' annual equity compensation is "at risk" and is directly aligned with stockholder value creation.

Stock options granted to our executive officers upon commencement of employment and granted annually, typically vest over four years, and, as noted above, performance-based awards vest only upon achievement of the specified performance events, which we believe provides in both cases an incentive to our executives to add value to the company over the long-term and to remain with Alnylam.

## Time- and Performance-Based Equity Awards

Our annual equity awards for 2020 performance were in the form of time-based stock option awards and PSUs. The time-based stock options vest as to 25% of the shares on the first anniversary of the grant date and as to an additional 6.25% of the shares at the end of each successive three-month period thereafter until the fourth anniversary of the grant date. With respect to the performance-based portion of the annual equity awards, a portion of the shares subject to the PSUs vest upon the later of the one-year anniversary of the date of grant and the achievement of specific clinical development, regulatory and/or commercial events, as approved by our PC&C committee. Set forth below is a summary of the performance-based vesting events for the performance-based portion of the annual equity awards granted over the last four years, together with the status of the achievement of such events.

Year for Award	Performance Milestone (% of Award)	Date Achieved	Status of Potential Achievement*
2017	<ul style="list-style-type: none"> <li>Achievement of Human Proof of Concept (POC) for Investigational Therapeutic Utilizing ESC+GalNAc Conjugate Platform (33%)</li> </ul>	✓ November 2019	
	<ul style="list-style-type: none"> <li>Filing of Third NDA or MAA for Regulatory Approval with the FDA or EMA (33%)</li> </ul>	✓ December 2019	
	<ul style="list-style-type: none"> <li>Achievement of First \$500.0 Million in Cumulative Net Product Revenues (33%)</li> </ul>	✓ February 2021	
2018	<ul style="list-style-type: none"> <li>Filing an IND or CTA for CNS or Ocular Product Candidate (33%)</li> </ul>		<ul style="list-style-type: none"> <li>Timing of achievement depends on success of early stage research and development efforts in CNS/ocular programs</li> </ul>
	<ul style="list-style-type: none"> <li>Filing of Fourth NDA or MAA for Regulatory Approval with the FDA or EMA (33%)</li> </ul>	✓ April 2020	
	<ul style="list-style-type: none"> <li>Achievement of First \$500.0 Million in Cumulative Net Product Revenues (33%)</li> </ul>	✓ February 2021	
2019	<ul style="list-style-type: none"> <li>Filing of Fifth NDA or MAA for Regulatory Approval with the FDA or EMA (33%)</li> </ul>		<ul style="list-style-type: none"> <li>Timing of achievement depends on progress and success of Phase 3 programs</li> </ul>
	<ul style="list-style-type: none"> <li>Positive Data from Phase 3 Clinical Study in ATTR Amyloidosis Patients with Cardiomyopathy (33%)</li> </ul>		<ul style="list-style-type: none"> <li>Timing of achievement depends on progress and success of Phase 3 programs in indication</li> </ul>
	<ul style="list-style-type: none"> <li>Achievement, on or before December 31, 2024, of First \$2.5 Billion in Cumulative Net Product Revenues (33%)</li> </ul>		<ul style="list-style-type: none"> <li>Timing of achievement depends on progress of commercial efforts, success of regulatory filing(s) and potential additional product approvals</li> </ul>

Year for Award	Performance Milestone (% of Award)	Date Achieved	Status of Potential Achievement*
2020	<ul style="list-style-type: none"> <li>Positive Data from Phase 3 Clinical Study in ATTR Amyloidosis Patients with Cardiomyopathy (25%)</li> </ul>		<ul style="list-style-type: none"> <li>Timing of achievement depends on progress and success of Phase 3 programs in indication</li> </ul>
	<ul style="list-style-type: none"> <li>Achievement, on or before December 31, 2024, of First \$2.5 Billion in Cumulative Net Product Revenues (25%)</li> </ul>		<ul style="list-style-type: none"> <li>Timing of achievement depends on progress of commercial efforts, success of regulatory filing(s) and potential additional product approvals</li> </ul>
	<ul style="list-style-type: none"> <li>Achievement, on or before December 31, 2025, of Non-GAAP Operating Income Profitability for a 12-month Calendar Year (25%)</li> </ul>		<ul style="list-style-type: none"> <li>Timing of achievement depends on progress of commercial efforts, success of regulatory filing(s) and potential additional product approvals and level of operating expenses</li> </ul>
	<ul style="list-style-type: none"> <li>Initiation of first Phase 3 Clinical Study for an Alnylam Proprietary RNAi Therapeutic in Development to Treat a Prevalent Disease (25%)</li> </ul>		<ul style="list-style-type: none"> <li>Timing of achievement depends on success of early stage research and development efforts in Prevalent Disease programs</li> </ul>

\* Timing of actual achievement, if at all, will depend on the progress of our clinical trials, the timing and success of regulatory filing(s) and potential additional product launch(es), the success of our commercial efforts for our marketed product(s) and our ability to manage our operating expenses. Actual achievement may be based upon events not listed above.

Any determination as to whether or not a vesting event has been met shall be approved by our PC&C committee and the date of vesting shall be the later of the date of such determination by the committee and the one-year anniversary of the date of grant.

Stock option awards typically have a term of ten years and the performance events for a PSU must occur within ten years from the date of grant. Vesting of equity awards to employees typically ceases upon termination of employment and exercise rights for vested awards typically cease three months following termination of employment, except in the case of death or disability, or with respect to members of our management board, in the event of a qualifying termination following a CIC. Prior to the exercise of an option or the vesting of a PSU, the holder does not have any rights as a stockholder with respect to the shares subject to such option or PSU, including voting rights and the right to receive dividends or dividend equivalents.

In connection with the annual review of each executive officer's individual performance and consistent with our compensation philosophy, our PC&C committee approved annual equity incentive awards for our executive officers for 2020 performance in February 2021. As noted above, in connection with the continued assessment of our equity incentive program, beginning with annual awards for 2019 (that were made in February 2020) and new hire awards in 2020, we transitioned from a unit-based to a value-based approach for determining equity awards for all employees, including our NEOs. The guideline for award levels for NEOs for 2019 and 2020 was set between the 50th and 60th percentile of market, subject to adjustment for individual performance.

We view equity incentive compensation as a critical component of our compensation strategy and therefore to date we have maintained a broad-based program for all employees to have an opportunity to participate as owners of the company. This program is consistent with the description above for our NEOs and includes equity incentive awards upon the commencement of employment

and annual equity incentive awards for all employees. Annual awards are structured in the same way for all employees, with 50% vesting over time and 50% vesting only upon the achievement of specified performance milestones.

The annual equity incentive awards granted to our NEOs for 2020 and 2019 performance, the value of such awards and the percentage change from 2020 versus 2019, are set forth in the table below.

### Annual Equity Incentive Awards

Name	Number of Stock Options Granted			Number of Performance Stock Units Granted			Annual Equity Incentive Award Values**		
	2020 (#)***	2019 (#)***	2020 versus 2019 Year-over-Year Change(%)	2020 (#)***	2019 (#)***	2020 versus 2019 Year-over-Year Change(%)	2020 (\$)**	2019 (\$)**	2020 versus 2019 Year-over-Year Change(%)
John M. Maraganore, Ph.D.	79,998	88,240	-9%	42,879	48,709	-12%	13,000,000	11,500,000	13%
Yvonne L. Greenstreet, MBChB, MBA	28,800	27,623	4%	15,437	15,248	1%	4,680,000	3,600,000	30%
Akshay K. Vaishnav, M.D., Ph.D.	28,800	27,623	4%	15,437	15,248	1%	4,680,000	3,600,000	30%
Jeffrey V. Poulton	23,200	24,554	-6%	12,435	13,544	-8%	3,770,000	3,200,000	18%
Laurie B. Keating	17,846	24,554	-27%	9,556	13,544	-29%	2,900,000	3,200,000	-9%
Barry E. Greene*	—	29,925	N/A	—	16,519	N/A	—	3,900,000	N/A

\* Mr. Greene resigned from the company, effective September 30, 2020.

\*\* See Note 4 and Note 5 to Summary Compensation Table for additional information on the calculation of the value of awards.

\*\*\* Reflects awards made in first quarter of 2021 and 2020 for 2020 and 2019 performance, respectively. Awards granted in February 2021 for 2020 performance are presented for comparative purposes and are not reflected in the Summary Compensation Table for 2020. These awards will be included as 2021 compensation in the 2022 proxy statement.

In addition to the annual equity awards described above, in October 2020, the PC&C committee approved a one-time strategic PSU award for all members of our management board who were employed at such time, including the NEOs (but excluding the CEO). The value of these one-time strategic PSU awards was equal to each individual's 2020 annual base salary. The value of each PSU award and the number of PSUs granted is set forth in the table below.

## One-Time Strategic Performance-Based Equity Awards

Name*	Grant Date	Number of One-Time PSUs Granted (#)	Grant Date Fair Value of One-Time Performance-Based Awards if 100% Achievement Probable(\$)**
John K. Maraganore, Ph.D.	N/A	N/A	N/A
Yvonne L. Greenstreet, MBChB, MBA	10/07/2020	4,153	603,846
Akshay K. Vaishnav, M.D., Ph.D.	10/07/2020	4,241	616,641
Jeffrey V. Poulton	10/07/2020	3,698	537,689
Laurie B. Keating	10/07/2020	3,646	530,128

\* Mr. Greene resigned from the company, effective September 30, 2020 and therefore did not receive a one-time strategic PSU award.

\*\* Reflects the grant date fair value of such PSU awards, based upon maximum achievement. The value is calculated based on the number of PSUs granted multiplied by \$145.40 per share (the closing price of our common stock on the Nasdaq Global Select Market on the grant date).

These one-time strategic PSU awards vest upon the later of the one-year anniversary of the grant date and achievement of positive Phase 3 data in a key clinical development program. The purpose of this one-time strategic performance award was to align senior management and establish commitment around the achievement of a key development milestone supporting Alnylam's path to self-sustainability and to reward senior leaders who are critical to Alnylam achieving its long-term goals and vision.

### Benefits and Other Compensation

Other compensation to our executives consists primarily of the broad-based benefits we provide to all employees, including health and dental insurance, life and disability insurance and a 401(k) plan. Our 401(k) plan is a tax-qualified retirement savings plan pursuant to which all U.S. based employees, including executive officers, are able to contribute the lesser of up to 60% of their annual salary or the limit prescribed by the Internal Revenue Service on a before-tax basis. We match 100% of the first 2% of a plan participant's contributions and 50% of the next 4% of contributions in cash. Prior to 2020, our matching contributions were made in the form of shares of our common stock. We do not have an annual maximum for matching contributions (subject to statutory maximums under the Code) and such matching contributions are fully vested immediately.

### Employment Arrangements

Our CEO and our executive officers are at-will employees and do not have employment agreements. Each executive officer has signed a nondisclosure, non-competition and assignment of intellectual property agreement providing for the protection of our confidential information and ownership of intellectual property developed by such executive officer and a covenant not to compete with us for a period of at least 12 months after termination of employment.

Pursuant to the terms of her letter of employment, Dr. Greenstreet is entitled to receive reimbursement for certain expenses related to her relocation to the Boston area, as well as a tax-gross up for certain taxable relocation payments, which benefit has been extended by us beyond the agreed upon two-year term.

In connection with his resignation from Alnylam, following seventeen years of service, we entered into a letter agreement with Mr. Greene dated August 26, 2020. Under the letter agreement, Mr. Greene agreed to provide consulting services to us for up to 10 hours per month, on an as needed basis, for a two-year period and also agreed to extend the length of certain pre-existing non-compete and non-solicitation obligations to remain in effect for two years following his resignation. During the two-year period ending September 30, 2022, Mr. Greene will receive as full compensation for his consulting services (i) cash compensation equal to \$627,300, less lawful deductions, paid in bi-weekly installments during the period of October 1, 2020 through September 30, 2021, and (ii) continued vesting for all equity awards outstanding as of September 30, 2020 during the period from October 1, 2020 through September 30, 2022. All outstanding equity awards will cease vesting as of September 30, 2022 and will be exercisable for three months thereafter, or until the tenth anniversary of the date of grant, whichever is earlier. We also paid Mr. Greene a lump sum equal to 18 months of our portion of monthly COBRA premiums for Mr. Greene. Under the letter agreement, in January 2021, Mr. Greene received a cash bonus for fiscal year 2020 of \$376,380, representing his target percentage award of 60% of current base salary under the AIP. Under the letter agreement, Mr. Greene has agreed to a general release and certain other standard terms and conditions.

### **Potential Payments Upon Termination or Change-in-Control**

We have entered into an individual CIC agreement with each member of our management board, including our CEO and all of our other current NEOs. In 2020, our PC&C committee reviewed the benefits provided under these agreements and increased the amounts payable to our CEO under such CIC agreement, which was initially entered into in November 2017. The CIC agreements entitle each executive to certain benefits in the event of certain terminations of employment with us within 12 months following a CIC (as defined in the CIC agreement). Pursuant to each CIC Agreement, if an executive is terminated by us without Cause (as defined in the CIC agreement) or if an executive terminates his or her employment for Good Reason (as defined in the CIC agreement), in either case, within 12 months following a CIC, such executive will be entitled to receive (i) a lump sum cash payment equal to one and a half times, or in the case of our CEO, two times, the sum of: (A) his or her annual base salary in effect immediately prior to termination (or prior to the CIC, if higher) and (B) his or her target bonus for the fiscal year in which the CIC occurred; and (ii) if the executive was participating in our group health plan immediately prior to such termination and elects continuation coverage under COBRA, a monthly cash payment for 18 months (or, in the case of our CEO, 24 months) (or the expiration of the COBRA continuation period, if earlier) equal to the monthly employer contribution we would have paid to provide the executive with health insurance if he or she had remained employed. In addition, following a CIC and qualifying termination of employment, all of an executive's outstanding unvested stock options and other stock-based awards shall immediately accelerate and become fully exercisable or nonforfeitable. Receipt of these payments and benefits is subject to execution of a general release of claims in favor of us.

If any payment and benefits to be paid or provided to an executive, whether pursuant to the terms of a CIC Agreement or otherwise, would be subject to "golden parachute" excise taxes under the Code, the payments and benefits will be reduced to the extent necessary to avoid such excise taxes, but only if such a reduction of pay or benefits would result in a greater after-tax benefit to the executive.

Each CIC Agreement will terminate upon the earlier of (i) an executive's termination of employment with us for any reason prior to a CIC, (ii) an executive's termination of employment with Alnylam after a CIC other than for Cause or Good Reason or (iii) the date that is 12 months after a CIC, if the executive is still employed by the company.

There are no other agreements with our NEOs that provide for separation pay in the event of termination of employment.

### **Stock Ownership Guidelines**

We have stock ownership guidelines for our directors and our executive officers. Under these guidelines, directors (other than our CEO) are required to hold equity securities having a minimum value of three times the annual cash retainer (currently \$165,000), our CEO is required to hold equity securities having a minimum value of six times his base salary and all of our other executive officers are required to hold equity securities having a minimum value of three times their base salary. Each current non-employee director and all executive officers (other than the CEO) have five years from October 5, 2020 to achieve the new guidelines and newly appointed/elected persons have five years from the date of appointment/election to achieve the applicable guideline.

The following forms of equity count toward the ownership guideline: shares owned outright; unvested restricted stock, restricted stock units, or RSUs (whether or not performance-based) and deferred stock units to be settled in shares; and vested but unexercised "in-the-money" stock options. The company reviews compliance annually, valuing stock at the higher of the fair market value on date of review or the trailing 90-day average. All of our directors (including our CEO) and our executive officers are currently in compliance with our ownership guidelines.

### **Anti-Hedging and Anti-Pledging Policy**

Our insider trading policy expressly prohibits all of our employees, including our NEOs, as well as our directors, from engaging in speculative transactions in our stock, including short sales, puts/calls, hedging transactions and margin accounts or pledges. Waivers of these prohibitions allowing for pre-clearance/pre-approval under certain situations are also not permitted under the policy.

### **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 prior to such financial restatement. Any clawback would be in addition to any other relief available to the company as a result of such misconduct.

### **Tax and Accounting Considerations**

Section 162(m) of the Code generally places a \$1 million limit on the amount of compensation a company can deduct in any one year for certain executive officers and certain other individuals. While the PC&C committee considers tax deductibility as one factor in determining executive



compensation, the PC&C committee also looks at other factors in making its decisions, as noted above, and retains the flexibility to award compensation that it determines to be consistent with the goals of our executive compensation program even if the awards are not deductible by us for tax purposes. The exemption from Section 162(m)'s deduction limit for performance-based compensation has been repealed, effective for taxable years beginning after December 31, 2017, such that compensation paid to our NEOs in excess of \$1 million will not be deductible unless it qualifies for the limited transition relief applicable to certain arrangements in place as of November 2, 2017.

Despite the PC&C committee's efforts to structure certain performance-based awards in a manner intended to be exempt from Section 162(m) and therefore not subject to its deduction limits, because of ambiguities and uncertainties as to the application and interpretation of Section 162(m) and the regulations issued thereunder, including the uncertain scope of the transition relief under the legislation repealing the performance-based compensation exemption from the deduction limit, no assurance can be given that compensation intended to satisfy the requirements for exemption from Section 162(m) in fact will. Further, the PC&C committee reserves the right to modify compensation that was initially intended to be exempt from Section 162(m) if it determines that such modifications are consistent with our business needs. The PC&C committee believes that stockholder interests are best served if its discretion and flexibility in awarding compensation is not restricted, even though some compensation awards may result in non-deductible compensation expenses.

### **People, Culture and Compensation Committee Report on Executive Compensation**

The members of our people, culture and compensation committee have reviewed and discussed the "Compensation Discussion and Analysis" required by Item 402(b) of Regulation S-K with management. Based upon such review and discussions, our people, culture and compensation committee recommended to our board that such section be included in this proxy statement and incorporated by reference in our Annual Report on Form 10-K for the year ended December 31, 2020, which was filed with the SEC on February 11, 2021.

By the people, culture and compensation committee of the board of directors of Alnylam,

Amy W. Schulman, Chair  
Steven M. Paul, M.D.  
Olivier Brandicourt, M.D.

## Executive Compensation

The following table sets forth the total compensation paid or accrued for the years ended December 31, 2020, 2019 and 2018 to our NEOs.

### Summary Compensation Table

Name and Principal Position	Year	Salary (\$)	Bonus (\$)	Stock Awards (\$)(4)	Option Awards (\$)(5)	Non-Equity Incentive Plan Compensation (\$)(6)	All Other Compensation (\$)(7)	Total (\$)
John M. Maraganore, Ph.D. <i>Chief Executive Officer (principal executive officer)</i>	2020	946,200	—	—	5,746,295	1,110,000	15,669	7,818,164
	2019	845,000	—	1,204,195	4,327,138	913,750	27,773	7,317,856
	2018	800,000	—	—	3,782,231(8)	480,000	27,038	5,089,269
Yvonne L. Greenstreet, MBChB, MBA(1) <i>President and Chief Operating Officer</i>	2020	621,500	—	—	1,798,843	434,736	178,922	3,034,001
	2019	571,423	—	460,360	1,654,494	370,875	192,873	3,250,025
	2018	540,000	—	—	1,801,063(8)	216,000	125,692	2,682,755
Akshay K. Vaishnav, M.D., Ph.D. <i>President, Research and Development</i>	2020	634,600	—	—	1,798,843	443,880	16,497	2,893,820
	2019	586,530	—	460,360	1,654,494	378,680	20,888	3,100,952
	2018	570,000	—	—	1,801,063(8)	228,000	20,608	2,619,671
Jeffrey V. Poulton(2) <i>Executive Vice President, Chief Financial Officer (principal financial officer)</i>	2020	556,800	—	—	1,598,986	322,560	14,113	2,492,459
	2019	254,808	—	—	5,479,525	136,740	6,343	5,877,416
Laurie B. Keating <i>Executive Vice President, Chief Legal Officer and Secretary</i>	2020	544,600	—	—	1,598,986	265,000	25,562	2,434,148
	2019	490,400	—	354,110	1,272,688	268,750	35,732	2,421,680
	2018	446,700	—	—	990,584(8)	144,000	32,734	1,614,018
Barry E. Greene(3) <i>Former President</i>	2020	484,000	—	457,596(9)	8,313,010(9)	376,380	717,332	10,348,318
	2019	596,820	—	460,360	1,654,494	385,323	21,367	3,118,364
	2018	580,000	—	—	2,161,275(8)	232,000	21,108	2,994,383

- (1) Dr. Greenstreet has served as our president and chief operating officer since October 2020, and was our chief operating officer since March 2019 and was compensated at the president level. Prior to that time, she was our executive vice president, chief operating officer from September 2016 to March 2019.
- (2) Mr. Poulton joined Alnylam in July 2019 and was appointed as our executive vice president, chief financial officer and principal financial and accounting officer in August 2019. The amount reported as salary for 2019 represents the total salary earned by Mr. Poulton during 2019 and is based upon an annual salary of \$530,000, pro-rated to reflect his partial year of employment. Mr. Poulton was eligible to participate in the 2019 annual cash incentive program with a pro-rated award. In addition, Mr. Poulton received a stock option award upon commencement of his employment. Mr. Poulton also was eligible to receive an annual stock option award for 2019, which was granted in February 2020.
- (3) Mr. Greene resigned from Alnylam, effective September 30, 2020. The amount reported as salary for 2020 represents the total salary earned by Mr. Greene during 2020 prior to his resignation and is based upon an annual 2020 salary of \$627,300. In connection with his resignation, we entered into a letter agreement with Mr. Greene, pursuant to which Mr. Greene agreed to provide consulting services to us for up to 10 hours per month, on an as needed basis, for a two-year period. During the two-year period ending September 30, 2022, Mr. Greene will receive as full compensation for his consulting services (i) cash compensation equal to \$627,300, less lawful deductions, to be paid in bi-weekly installments during the period of October 1, 2020 through September 30, 2021, and (ii) continued vesting for all equity awards outstanding as of September 30, 2020 during the period from October 1, 2020 through September 30, 2022. All outstanding equity awards will cease vesting as of September 30, 2022 and will be exercisable for three months thereafter, or until the tenth anniversary of the date of grant, whichever is earlier. We also paid Mr. Greene a lump sum equal to 18 months of our portion of monthly COBRA premiums for Mr. Greene. Under the letter agreement, in January 2021, Mr. Greene received a cash bonus for fiscal year 2020 of \$376,380, representing his target percentage award of 60% of current base salary under the AIP.

- (4) The amounts reported in the Stock Awards column represent the aggregate grant date fair value for the fiscal years ended December 31, 2020 and 2019 of grants of PSUs to each of the NEOs, calculated in accordance with the provisions of FASB ASC Topic 718. The assumptions we used in calculating these amounts are included in Note 14 of our audited consolidated financial statements for the year ended December 31, 2020 included in our Annual Report on Form 10-K, filed with the SEC on February 11, 2021. In accordance with SEC rules, these amounts are calculated based on the probable outcome of the performance conditions as of the grant date. For PSUs granted during 2020, which included awards granted in February 2020 for 2019 performance and a one-time strategic award granted in October 2020 to all members of our management board, including the NEOs (but excluding the CEO), we determined that, as of the dates of grant, it was not probable, as defined under applicable accounting guidance, that any of the performance conditions would be achieved and assigned a grant date fair value of \$0. If we had determined that, as of the dates of grant, it was probable that 100% of the performance conditions would be achieved, we would have assigned a grant date fair value of \$5,750,097 for Dr. Maraganore, \$2,403,873 for Dr. Greenstreet, \$2,416,668 for Dr. Vaishnaw, \$2,137,739 for Mr. Poulton, \$2,130,178 for Ms. Keating and \$1,950,068 for Mr. Greene. For PSUs granted in 2019, which include awards granted in February 2019 for 2018 performance, the amounts reported in the stock awards column represent the grant date fair value of the portion of such awards for which the performance conditions were deemed probably as of the grant date. The grant date fair value of such awards, based upon maximum achievement, would be \$3,612,500 for Dr. Maraganore, \$1,381,250 for Dr. Greenstreet, \$1,381,250 for Dr. Vaishnaw, \$1,062,500 for Ms. Keating and \$1,381,250 for Mr. Greene. Mr. Poulton joined Alnylam in July 2019 and did not receive a PSU award for 2018 performance. We did not grant PSUs to any of our NEOs in 2018.
- (5) The amounts reported in the Option Awards column represent the aggregate grant date fair value for the fiscal years ended December 31, 2020, 2019 and 2018 of grants of time-based stock options to each of the NEOs, calculated in accordance with the provisions of FASB ASC Topic 718. The assumptions we used in calculating these amounts are included in Note 14 of our audited consolidated financial statements for the year ended December 31, 2020 included in our Annual Report on Form 10-K, filed with the SEC on February 11, 2021. To see the value actually realized by the NEO from stock option exercises in 2020, see the 2020 Option Exercises and Stock Vested table appearing below.

In connection with the continued build-out of our global commercial organization and preparations for the potential launch of our first commercial product in 2018, our PC&C committee shifted the timing of annual performance reviews and the determination of annual equity awards for 2017 from the fourth quarter of the year to the first quarter of the subsequent year. As a result, options granted in March 2018 for 2017 performance were not reflected in the Summary Compensation Table for 2017 and instead are included as 2018 compensation in this proxy statement. In addition, options granted in February 2019 for 2018 performance are reflected in the Summary Compensation Table above for 2019. Options granted in February 2020 for 2019 performance are reflected in the Summary Compensation Table above for 2020. Options granted in February 2021 for 2020 performance are not reflected in the Summary Compensation Table above for 2020 and will be included as 2021 compensation in the 2022 proxy statement.

The amounts reported in the Summary Compensation Table for these time-based stock option awards may not represent the amounts that the NEOs will actually realize from the awards. Whether, and to what extent, a NEO realizes value will depend on our actual operating performance, stock price fluctuations and the NEO's continued employment.

- (6) The amounts reported in the Non-Equity Incentive Plan Compensation column reflect the annual cash incentive bonus earned by the NEOs for each respective year under the AIP. The annual cash incentive bonuses were paid in the first quarter of the calendar year following the year to which the cash bonus relates.
- (7) The amounts reported in the All Other Compensation column reflect, for each NEO, the sum of (i) the dollar value of life insurance premiums we paid; (ii) the amount we contributed to the 401(k) plan in respect of such executive officer; and (iii) the incremental cost to us of all perquisites and other personal benefits. Specifically, the All Other Compensation column above includes:

Name	Year	Term Life Insurance Premiums Paid by Alnylam (\$)	Dollar Value of Contribution by Alnylam to the Executive's Account Under 401(k) Plan (\$ (a))	Incremental Cost to Alnylam of All Perquisites and Other Personal Benefits (\$)
John M. Maraganore, Ph.D.	2020	5,669	10,000	—
Yvonne L. Greenstreet, MBChB, MBA	2020	5,357	7,000	166,565(b)
Akshay K. Vaishnaw, M.D., Ph.D.	2020	5,386	11,000	111(c)
Jeffrey V. Poulton	2020	2,713	11,400	—
Laurie B. Keating	2020	15,562	10,000	—
Barry E. Greene	2020	4,462	10,000	702,870(d)

- (a) Prior to 2020, contributions by Alnylam to the executive's account under 401(k) plan was in the form of Alnylam common stock. Amounts included in the Summary Compensation Table for 2019 and 2018 represent the dollar value of Alnylam common stock contributed by Alnylam.
- (b) Represents \$111 for an employee fitness benefit, paid by Alnylam, in 2020, as well as amounts paid to Dr. Greenstreet for relocation assistance pursuant to her letter of employment, including \$117,600 in reimbursement for relocation expenses and \$48,854 for a gross-up related to taxable relocation benefits in 2020, \$122,103 in reimbursement for relocation expenses and \$50,848 for a gross-up related to taxable relocation benefits in 2019, and \$75,146 in reimbursement for relocation expenses and \$31,368 for a gross-up related to taxable relocation benefits in 2018.

## Table of Contents

- (c) Represents amounts for an employee fitness benefit, paid by Alnylam.
- (d) This amount includes \$632,162 in paid and accrued salary continuation, \$34,500 in paid COBRA premiums and \$36,208 paid for accrued vacation, in each case paid under Mr. Greene's separation agreement.
- (8) Each of the March 1, 2018 annual stock option awards included certain stock options that are subject to vesting upon the achievement of specific performance conditions. In accordance with SEC rules, the grant date fair value to be reported for performance-based stock options, or PBOs, in the Option Awards column is calculated based on the probable outcome of the performance conditions as of the grant date. We determined that as of the date of the grant it was not probable, as defined under applicable accounting guidance, that any of the performance conditions would be achieved and assigned a grant date fair value of \$0 in the Options Awards column based on this evaluation. For PBOs granted in 2018, we determined the grant date fair value of such awards, based upon maximum achievement, would be \$3,782,231 for Dr. Maraganore, \$1,801,063 for Dr. Greenstreet, \$1,801,063 for Dr. Vaishnav, \$990,584 for Ms. Keating and \$2,161,275 for Mr. Greene.
- (9) Amount includes the modification date value of \$457,596 in the Stock Awards column and \$6,364,258 in the Option Awards column to reflect the incremental fair value recognized for stock awards and stock options granted prior to September 30, 2020 that will continue to vest through September 30, 2022, respectively, as a result of the modification in August 2020 pursuant to Mr. Greene's separation agreement. See Note 3 above for additional information. Under the applicable accounting guidance, compensation cost to be recognized for equity awards that vest only as a result of a modification is based on the modification date value instead of the grant date fair value.

The following table sets forth information concerning each grant of an award made to a NEO during the fiscal year ended December 31, 2020 under any plan, contract, authorization or arrangement pursuant to which cash, securities, similar instruments or other property may be received.

### 2020 Grants of Plan-Based Awards(1)

Name	Award Type	Date of Grant	Estimated Future Payouts Under Non-Equity Incentive Plan Awards(2)			Estimated Future Payouts Under Equity Incentive Plan Awards(3)			All Other Option Awards: Number of Securities Underlying Options(4)	Exercise or Base Price of Option Awards (\$)	Grant Date Fair Value of Stock and Option Awards (\$)(4)
			Threshold (\$)	Target (\$)	Maximum (\$)	Threshold (#)	Target (#)	Maximum (#)			
John M. Maraganore, Ph.D.	Cash incentive		—	925,000	1,202,500						
	Time-based stock options	2/26/2020									
	Performance-based stock units	2/26/2020				—	48,709	48,709	88,240(5)	118.05	5,746,295 —(6)
Yvonne L. Greenstreet, MBChB, MBA	Cash incentive		—	362,280	470,964						
	Time-based stock options	2/26/2020									
	Performance-based stock units	2/26/2020				—	19,401	19,401	27,623(5)	118.05	1,798,843 —(6)
Akshay K. Vaishnav, M.D., Ph.D.	Cash incentive		—	369,900	480,870						
	Time-based stock options	2/26/2020									
	Performance-based stock units	2/26/2020				—	19,489	19,489	27,623(5)	118.05	1,798,843 —(6)
Jeffrey V. Poulton	Cash-incentive		—	268,800	349,440						
	Time-based stock options	2/26/2020									
	Performance-based stock units	2/26/2020				—	17,252	17,252	24,554(5)	118.05	1,598,986 —(6)
Laurie B. Keating	Cash incentive		—	265,000	344,500						
	Time-based stock options	2/26/2020									
	Performance-based stock units	2/26/2020				—	17,200	17,200	24,554(5)	118.05	1,598,986 —(6)
Barry E. Greene	Cash incentive		—	376,380	489,294						
	Time-based stock options	2/26/2020									
	Time-based stock options	8/26/2020(7)									
	Performance-based stock units	2/26/2020				—	16,519	16,519	29,925(5)	118.05	1,948,752 6,364,258(7) —(6)
	Performance-based stock units	8/26/2020(7)									

- (1) As described in the "Compensation Discussion and Analysis" and under the Summary Compensation Table, the equity awards for each of 2018, 2019 and 2020 annual performance were granted in the first quarter of the following year.

## Table of Contents

- (2) The amounts shown in the threshold, target and maximum columns reflect the minimum, target and maximum amounts payable, respectively, under our 2020 AIP, which is described above in the "Compensation Discussion and Analysis" under the heading "Short-Term Incentives—2020 Annual Incentive Program." The actual amounts paid to each NEO can be found above in the Summary Compensation Table under the column entitled Non-Equity Incentive Plan Compensation.
- (3) The amounts shown in the threshold, target and maximum columns reflect the minimum, target and maximum potential future payout range for equity awards granted with performance-based vesting milestones.
- (4) The grant date fair value, computed in accordance with FASB ASC Topic 718, represents the value of stock options granted during the year. In accordance with SEC rules, the grant date fair value to be reported for performance-based equity awards in the Grant Date Fair Value of Stock and Option Awards column is calculated based on the probable outcome of the performance condition(s) as of the grant date. The amounts reported in the 2020 Grants of Plan-Based Awards table for the time-based stock option awards reflect our accounting expense, excluding the effect of estimated forfeitures, and may not represent the amounts our NEOs will actually realize from the awards. Whether, and to what extent, a NEO realizes value will depend on our actual operating performance, stock price fluctuations and the NEO's continued employment.
- (5) The time-based portion of the option awards vest as to 25% of the shares on the first anniversary of the grant date and as to the remaining shares ratably at the end of each three-month period thereafter over the following thirty-six months, assuming the NEO continues to be employed with us through each vesting date.
- (6) The performance-based awards granted in February 2020 were split equally into three performance-based vesting conditions. As of the grant date, none of the three vesting conditions were considered probable, as defined under applicable accounting guidance, and were therefore assigned a grant date fair value of \$0 in the Grant Date Fair Value of Stock and Option Awards column based on this determination.
- (7) Amounts represent the modification date value of time-based stock options and performance-based awards reflecting the incremental fair value recognized for stock options that will continue to vest and performance-based awards that will remain eligible to vest through September 30, 2022 as a result of the modification in August 2020 pursuant to Mr. Greene's separation agreement. See Note 3 to the Summary Compensation table above for additional information. Under the applicable accounting guidance, compensation cost to be recognized for equity awards that vest only as a result of a modification is based on the modification date value instead of the grant date fair value.

## Information Relating to Equity Awards and Holdings

The following table sets forth information concerning outstanding equity awards held by each of our NEOs on December 31, 2020.

### Outstanding Equity Awards at Fiscal Year-End for 2020

Name	Grant Date	Option Awards(1)					Stock Awards(2)	
		Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#)	Option Exercise Price (\$)	Option Expiration Date	Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested (#)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested (\$)
John M. Maraganore, Ph.D.	11/30/2011	135,915	—	—	7.10	11/30/2021		
	12/20/2012	144,641	—	—	18.66	12/20/2022		
	09/11/2013	10,000(3)	—	—	55.96	09/11/2023		
	12/18/2013	148,413	—	—	63.00	12/18/2023		
	12/18/2013	75,000(4)	—	—	63.00	12/18/2023		
	05/01/2015	75,000(5)	—	—	96.45	12/17/2024		
	05/01/2015	75,000(6)	—	—	96.45	12/17/2024		
	12/18/2015	65,000	—	—	88.95	12/18/2025		
	12/18/2015	65,000(7)	—	—	88.95	12/18/2025		
	12/20/2016	25,000	—	—	42.22	12/20/2026		
	12/20/2016	25,000(8)	—	—	42.22	12/20/2026		
	03/01/2018	38,181(10)	14,319(10)	—	119.13	03/01/2028		
	03/01/2018	34,996(11)	—	17,504(11)	119.13	03/01/2028		
	02/28/2019	37,187	47,813	—	85.00	02/28/2029		
	02/28/2019	—	—	—	—	—	28,333(12)	3,682,440
02/26/2020	—	88,240	—	118.05	02/25/2030			
02/26/2020	—	—	—	—	—	48,709(14)	6,330,709	
Yvonne L. Greenstreet, MBChB, MBA	09/19/2016	28,064	—	—	77.10	09/19/2026		
	09/19/2016	25,000(9)	—	—	77.10	09/19/2026		
	12/20/2016	3,125	—	—	42.22	12/20/2026		
	12/20/2016	650(8)	—	—	42.22	12/20/2026		
	03/01/2018	18,181(10)	6,819(10)	—	119.13	03/01/2028		
	03/01/2018	16,666(11)	—	8,334(11)	119.13	03/01/2028		
	02/28/2019	14,218	18,282	—	85.00	02/28/2029		
	02/28/2019	—	—	—	—	—	10,833(12)	1,407,965
	02/26/2020	—	27,623	—	118.05	02/25/2030		
	10/07/2020	—	—	—	—	—	15,248(14)	1,981,783
						4,153(15)	539,765	
Akshay K. Vaishnav, M.D., Ph.D.	12/18/2013	32,500	—	—	63.00	12/18/2023		
	12/18/2013	32,500(4)	—	—	63.00	12/18/2023		
	05/01/2015	35,125(5)	—	—	96.45	12/17/2024		
	05/01/2015	35,125(6)	—	—	96.45	12/17/2024		
	12/18/2015	30,000	—	—	88.95	12/18/2025		
	12/18/2015	30,000(7)	—	—	88.95	12/18/2025		
	02/23/2016	10,000(3)	—	—	94.14	02/23/2026		
	12/20/2016	3,338	—	—	42.22	12/20/2026		
	03/01/2018	18,181(10)	6,819(10)	—	119.13	03/01/2028		
	03/01/2018	16,666(11)	—	8,334(11)	119.13	03/01/2028		
	02/28/2019	14,218	18,282	—	85.00	02/28/2029		
	02/28/2019	—	—	—	—	—	10,833(12)	1,407,965
	02/26/2020	—	27,623	—	118.05	02/25/2030		
02/26/2020	—	—	—	—	—	15,248(14)	1,981,783	
10/07/2020	—	—	—	—	—	4,241(15)	551,203	

Name	Grant Date	Option Awards(1)				Stock Awards(2)		
		Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Options (#)	Option Exercise Price (\$)	Option Expiration Date	Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested (#)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested (\$)
Jeffrey V. Poulton	08/01/2019	39,062	85,938		75.36	08/01/2029		
	02/26/2020	—	24,554		118.05	02/25/2030		
	02/26/2020						13,554(14)	1,761,613
	10/07/2020						3,698(15)	480,629
Laurie B. Keating	9/22/2014	18,191	—		77.40	9/22/2024		
	5/1/2015	5,959(5)	—		96.45	12/17/2024		
	5/1/2015	5,958(6)	—	—	96.45	12/17/2024		
	12/18/2015	14,000	—		88.95	12/18/2025		
	12/18/2015	14,000(7)	—	—	88.95	12/18/2025		
	12/20/2016	4,311	—		42.22	12/20/2025		
	3/1/2018	3,750(10)	3,750(10)		119.13	3/1/2028		
	3/1/2018	5,416(11)	—	4,584(11)	119.13	3/1/2028		
	2/28/2019	10,937	14,063		85.00	2/28/2029		
	2/28/2019						8,333(12)	1,083,040
	2/26/2020	—	24,554		118.05	2/25/2030		
	2/26/2020						13,554(14)	1,761,613
	10/7/2020						3,646(15)	473,871
Barry E. Greene(13)	11/30/2011	85,915	—		7.10	11/30/2021		
	12/20/2012	94,641	—		18.66	12/20/2022		
	10/21/2013	10,000(3)	—		59.31	10/21/2023		
	12/18/2013	88,413	—		63.00	12/18/2023		
	12/18/2013	45,000(4)	—	—	63.00	12/18/2023		
	5/1/2015	46,589(5)	—		96.45	12/17/2024		
	5/1/2015	47,625(6)	—	—	96.45	12/17/2024		
	12/18/2015	38,876	—		88.95	12/18/2025		
	12/18/2015	40,000(7)	—	—	88.95	12/18/2025		
	12/20/2016	22,632	—		42.22	12/20/2026		
	12/20/2016	25,000(8)	—	—	42.22	12/20/2026		
	3/1/2018	21,818(10)	8,182(10)		119.13	03/1/2028		
	3/1/2018	19,998(11)	—	10,002(11)	119.13	03/1/2028		
	2/28/2019	14,218	18,282		85.00	2/28/2029		
	2/28/2019						10,833(12)	1,407,965
	2/26/2020	—	29,925		118.05	02/25/2030		
2/26/2020						16,519(14)	2,146,974	

- (1) All stock option awards were granted with a ten-year term and typically vest as to 25% of the shares on the first anniversary of the grant date and as to an additional 6.25% at the end of each successive three-month period thereafter, unless otherwise noted, assuming the NEO continues to be employed with us through each vesting date.
- (2) The market value of PSUs that have not vested is based on the number of unvested PSUs outstanding times the closing price of our common stock on the Nasdaq Global Select Market on December 31, 2020.
- (3) These options were granted in recognition of ten years of service by the employee and were fully vested on the date of grant.
- (4) These options were granted on December 18, 2013 and vested in three equal installments upon the achievement of each of three specific clinical development or regulatory events. One-third of these options vested in December 2014 based on the start of a second Phase 3 clinical trial of an "Alynlym 5x15" program, one-third of these options vested in September 2017 based on the positive topline results from our APOLLO Phase 3 study and one-third of these options vested in August 2018 based on FDA approval of ONPATTRO.

## Table of Contents

- (5) On December 17, 2014, our PC&C committee approved the grant of the 2014 Contingent Option Awards to members of our management team, including our NEOs, in connection with their performance and compensation review for 2014. These 2014 Contingent Option Awards were approved subject to and contingent upon approval by our stockholders at the 2015 annual meeting of the Amended and Restated 2009 Stock Incentive Plan, which approval was obtained on May 1, 2015. These options represent the half of the 2014 Contingent Option Award subject to time-based vesting.
- (6) These options represent the half of the 2014 Contingent Option Award described in Note 5 above subject to performance-based vesting. These options vested in three equal installments upon the achievement of each of three specific clinical development or regulatory events. One-third of these options vested in February 2016 based upon the completion of patient enrollment in our APOLLO Phase 3 study, one-third vested in July 2017 based on the initiation of the ATLAS Phase 3 program for fitusiran and one-third of these options vested in August 2018 based on FDA approval of ONPATTRO.
- (7) These options were granted on December 18, 2015 and vested in four equal installments upon the achievement of each of four specific clinical development or commercial events. One-fourth of these options vested in November 2017 based upon the start of our fourth Phase 3 clinical trial, one-fourth of these options vested in August 2018 based upon the completion of patient enrollment in our third Phase 3 study, one-fourth of these options vested in September 2018 based on the positive Phase 3 clinical data in our second Phase 3 program and one-fourth of these options vested in August 2019 based upon the achievement of the first \$100 million in cumulative gross product sales.
- (8) These options were granted on December 20, 2016 and vested in four equal installments upon the achievement of each of four specific clinical development, regulatory or commercial events. One-fourth of these options vested in December 2017 based upon our filing of an NDA with the FDA for ONPATTRO, one-fourth of these options vested in September 2018 based on the positive Phase 3 clinical data in our second Phase 3 program, one-fourth of these options vested in June 2019 based upon our filing of an NDA with the FDA for GIVLAARI and one-fourth of these options vested in August 2019 based upon the achievement of the first \$100 million in cumulative gross product sales.
- (9) These options were granted on September 19, 2016 and vested in August 2018 upon the launch of ONPATTRO.
- (10) The time-based portion of the March 1, 2018 option awards vest as to 25% of the shares on the first anniversary of the grant date and as to the remaining shares ratably at the end of each three-month period thereafter over the following thirty-three months, assuming the NEO continues to be employed with us through each vesting date.
- (11) These options were granted on March 1, 2018 and vest in three equal installments upon the later of one year from the date of grant and the achievement of each of three specific clinical development, regulatory or commercial events, assuming the NEO continues to be employed with us through each vesting date. One-third of these options vested in November 2019 based upon achievement of human POC for an investigational RNAi therapeutic utilizing our ESC+GalNAc conjugate platform, one-third of these options vested in December 2019 based upon the filing by our partner of an NDA with the FDA for inclisiran, and one-third of these options vested in February 2021 based upon achievement of the first \$500 million in cumulative net product revenues.
- (12) These PSU awards were granted on February 28, 2019 and vest in three equal installments upon the later of one year from the date of grant and the achievement of each of three specific clinical development, regulatory or commercial events, assuming the NEO continues to be employed with us through each vesting date. One-third of these options vested in April 2020 based upon our filing of an NDA with the FDA for lumasiran and one-third of these options vested in February 2021 based upon achievement of the first \$500 million in cumulative net product revenues.
- (13) Mr. Greene resigned from Alnylam, effective September 30, 2020. In connection with his resignation, we entered into a separation agreement with Mr. Greene pursuant to which we agreed to continue the vesting of any equity awards outstanding as of the separation date through September 30, 2022 in consideration for his provision of up to ten hours of consulting services per month to us through such date. All outstanding equity awards will cease vesting as of September 30, 2022 and will be exercisable for three months thereafter, or until the tenth anniversary of the date of grant, whichever is earlier.
- (14) These PSU awards were granted on February 26, 2020 and will vest in three equal installments upon the later of one year from the date of grant and the achievement of each of three specific clinical development, regulatory or commercial events, assuming the NEO continues to be employed with us through each vesting date.
- (15) These PSU awards were granted on October 7, 2020 and will vest upon the later of one year from the date of grant and the achievement of a key development milestone, assuming the NEO continues to be employed with us through the vesting date.



The following table sets forth information concerning the exercise of stock options and the vesting of PSUs during 2020 for each of our NEOs.

### 2020 Option Exercises and Stock Vested

Name	Option Awards		Stock Awards	
	Number of Shares Acquired on Exercise(#)	Value Realized on Exercise (\$)(1)	Number of Shares Acquired on Vesting(#)	Value Realized on Vesting (\$)
John M. Maraganore, Ph.D.	139,060	17,343,236	14,167	1,551,570
Yvonne L. Greenstreet, MBChB, MBA	127,536	10,097,974	5,417	593,270
Akshay K. Vaishnav, M.D., Ph.D.	46,662	4,232,095	5,417	593,270
Jeffrey V. Poulton	—	—	—	—
Laurie B. Keating	100,124	6,766,045	4,167	456,370
Barry E. Greene	95,175	11,575,150	5,417	593,270

(1) The value realized on exercise is based on the market price of the shares at exercise less the applicable option exercise price.

### Potential Payments Upon Termination or Change-in-Control (CIC)

Mr. Greene resigned from Alnylam, effective September 30, 2020. In connection with his resignation from Alnylam, following seventeen years of service, we entered into a letter agreement with Mr. Greene dated August 26, 2020. Under the letter agreement, Mr. Greene agreed to provide consulting services to us for up to 10 hours per month, on an as needed basis, for a two-year period and also agreed to extend the length of certain pre-existing non-compete and non-solicitation obligations to remain in effect for two years following his resignation. During the two-year period ending September 30, 2022, Mr. Greene will receive as full compensation for his consulting services (i) cash compensation equal to \$627,300, less lawful deductions, paid in bi-weekly installments during the period of October 1, 2020 through September 30, 2021, and (ii) continued vesting for all equity awards outstanding as of September 30, 2020 during the period from October 1, 2020 through September 30, 2022. All outstanding equity awards will cease vesting as of September 30, 2022 and will be exercisable for three months thereafter, or until the tenth anniversary of the date of grant, whichever is earlier. We also paid Mr. Greene a lump sum equal to 18 months of our portion of monthly COBRA premiums for Mr. Greene. Under the letter agreement, in January 2021, Mr. Greene received a cash bonus for fiscal year 2020 of \$376,380, representing his target percentage award of 60% of current base salary under the AIP. As of December 31, 2020, Mr. Greene's unvested stock options and PSUs expected to vest during his separation period had an intrinsic value of \$1,310,149 and \$2,839,195, respectively. The intrinsic value of Mr. Greene's unvested stock options was calculated based on the number of unvested stock options outstanding scheduled to vest during his separation period as of December 31, 2020, multiplied by the result of \$129.97 per share (the closing price of our common stock on the Nasdaq Global Select Market on the last trading day of 2020) minus the respective exercise price per share. The intrinsic value of Mr. Greene's unvested PSUs was calculated based on the number of unvested PSUs expected to vest during his separation period multiplied by \$129.97 per share (the closing price of our common stock on the Nasdaq Global Select Market on the last trading day of 2020).

We have also entered into CIC agreements with each of our NEOs, as described in the section below titled “Change-in-Control Agreements.” Accordingly, the following table sets forth potential payments and benefits payable assuming a termination date of December 31, 2020 for our NEOs in connection with a CIC. Other than the CIC agreements described below with the members of our management board, we do not maintain employment agreements with any of executive officers pursuant to which they would become eligible for potential severance payments upon termination or upon a change in control absent a corresponding termination.

Name(1)	Cash Severance Benefits\$(2)	Continuation of Medical, Dental and Vision Benefits\$(3)	Accelerated Vesting of Stock Options\$(4)	Accelerated Vesting of Restricted Stock Awards\$(5)	Total Amount (\$)
John M. Maraganore, Ph.D.	3,700,000	45,687	3,546,933	10,013,149	17,305,769
Yvonne L. Greenstreet, MBChB, MBA	1,449,120	34,522	1,315,666	3,929,513	6,728,821
Akshay K. Vaishnaw, M.D., Ph.D.	1,479,600	34,346	1,315,666	3,940,950	6,770,562
Jeffrey V. Poulton	1,209,600	34,522	4,985,758	2,242,242	8,472,122
Laurie B. Keating	1,192,500	23,215	1,015,437	3,318,524	5,549,676

- (1) In November 2017, we entered into an individual CIC agreement with each member of our management board, including our CEO and all of our other NEOs, with the exception of Mr. Poulton with whom we entered into an individual CIC agreement in August 2019. In 2020, our PC&C committee reviewed the benefits provided under these agreements and increased the amounts payable to our CEO under such CIC agreement.
- (2) The amount represents 150% or, in the case of our CEO, 200%, of the sum of his or her (i) base salary for 2020 and (ii) target bonus for 2020.
- (3) The amount is calculated as the monthly Alnylam contribution we would pay to provide the executive with medical, dental and vision benefits if he or she remained employed based on rates as of January 2021 multiplied by 18 months, or in the case of our CEO, 24 months, based on each NEO’s participation status as of December 31, 2020.
- (4) The value is calculated based on the number of stock options unvested as of December 31, 2020, including performance-based stock options, multiplied by the result of \$129.97 per share (the closing price of our common stock on the Nasdaq Global Select Market on the last trading day of 2020) minus the respective exercise price per share.
- (5) The value is calculated based on the number of unvested PSUs multiplied by \$129.97 per share (the closing price of our common stock on the Nasdaq Global Select Market on the last trading day of 2020).

The actual amount an executive would realize upon termination related to a CIC would likely differ from the amounts above, including adjustments to base salary, adjustments to target bonus, stock price fluctuations and the vesting and grant of additional stock-based awards, as well as the exercise and sale of any stock-based award prior to any such termination. In the event an executive would be subject to “golden parachute taxes” under the Code, payments and benefits in connection with a CIC will be reduced to the extent necessary to avoid such taxes, but only if such reduction provided a greater after-tax benefit to an executive.

## Change-in-Control Agreements

In November 2017, we entered into an individual CIC agreement with each member of our management board, and all of our other current NEOs, with the exception of Mr. Poulton, with whom we entered into a CIC agreement in August 2019. In 2020, our PC&C committee evaluated the existing CIC benefits for our CEO and our other NEOs relative to our peer group and determined that the CEO's CIC agreement should be amended to align with prevailing market practices, increasing the benefit in the event of termination following a CIC from 18 to 24 months base salary and from 1.5 to 2 times target bonus. The CIC agreements entitle each executive to certain benefits in the event of certain terminations of employment with us within 12 months following a CIC (as defined in the CIC agreement). Pursuant to each CIC Agreement, if an executive is terminated by us without Cause (as defined in the CIC agreement) or if an executive terminates his or her employment for Good Reason (as defined in the CIC agreement), in either case, within 12 months following a CIC, such executive will be entitled to receive (i) a lump sum cash payment equal to one and a half times, or in the case of our CEO, two times, the sum of: (A) his or her annual base salary in effect immediately prior to termination (or prior to the CIC, if higher) and (B) his or her target bonus for the fiscal year in which the CIC occurred; and (ii) if the executive was participating in our group health plan immediately prior to such termination and elects continuation coverage under COBRA, a monthly cash payment for 18 months (or, in the case of our CEO, 24 months) (or the expiration of the COBRA continuation period, if earlier) equal to the monthly employer contribution we would have paid to provide the executive with health insurance if he or she had remained employed. In addition, in the event of a CIC and a qualifying termination of employment, all of an executive's outstanding unvested stock options and other stock-based awards shall immediately accelerate and become fully exercisable or nonforfeitable. Receipt of these payments and benefits is subject to execution of a general release of claims in favor of us.

If any payment and benefits to be paid or provided to an executive, whether pursuant to the terms of a CIC Agreement or otherwise, would be subject to "golden parachute" excise taxes under the Code, the payments and benefits will be reduced to the extent necessary to avoid such excise taxes, but only if such a reduction of pay or benefits would result in a greater after-tax benefit to the executive.

Each CIC Agreement will terminate upon the earlier of (i) an executive's termination of employment with us for any reason prior to a CIC, (ii) an executive's termination of employment with Alnylam after a CIC other than for Cause or Good Reason or (iii) the date that is 12 months after a CIC, if the executive is still employed by us.

## CEO Pay Ratio

In connection with Item 402(u) of Regulation S-K adopted pursuant to Section 953(b) of the Dodd-Frank Wall Street Reform and Consumer Protection Act, we are required to calculate and disclose the median annual compensation of all of our employees (excluding our CEO, Dr. Maraganore), the annual compensation of Dr. Maraganore, and the ratio of these two amounts.

Based on a significant number of new hires in 2020, we did not elect to use the same median employee as the prior year. Our median employee was identified using the entire population of our employees as of October 1, 2020 based on a consistently applied compensation measure, or CACM, that reasonably reflects the annual compensation of employees. The CACM selected by us for our

disclosure included annual base salary for salaried employees (or wages based on an annual work schedule for non-salaried employees), overtime for the year-to-date period ended October 1, 2020, target bonus opportunity for 2020 and the grant-date fair value for stock-based awards (calculated in accordance with requirements for the Summary Compensation Table). In 2020, the target bonus opportunity for our non-field-based employees was based on corporate and individual performance under our AIP and the target bonus opportunity for field-based employees consisted of sales-related metrics in connection with our commercial products, under our field-based incentive plan.

Based on the CACM methodology described above, we identified the median employee. We calculated the 2020 compensation for our median employee of \$233,341 in the same manner we determine the annual total compensation of our NEOs for purposes of the Summary Compensation Table. Dr. Maraganore's 2020 compensation as disclosed in the Summary Compensation Table is \$7,818,164. As a result, our CEO to median employee pay ratio for 2020 is 34:1, representing an increase from the ratio for 2019 as a result of our increased hiring across more junior positions with lower base salaries, combined with the increase in our CEO's base salary and non-equity incentive plan compensation year over year to more closely align with the market median and comparable executives in our peer group.

This pay ratio is a reasonable estimate calculated by a method consistent with the SEC requirements, described above, based on our payroll and employment records. As a result of a variety of factors, including employee populations, potential differences in the components used for the CACM, compensation philosophies and certain assumptions, pay ratios reported by other companies may not be comparable to our pay ratio. The pay ratio is not utilized by our management or our PC&C committee for compensation-related decisions.

## SAY-ON-PAY – ADVISORY VOTE ON EXECUTIVE COMPENSATION (PROPOSAL 2)

We are providing our stockholders with the opportunity to vote to approve, on an advisory, non-binding basis, the compensation of our NEOs as disclosed in this proxy statement in accordance with the SEC's rules. This proposal, which is commonly referred to as "say-on-pay," is required by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, which added Section 14A to the Exchange Act.

We encourage stockholders to read closely the "Executive Compensation" section of this proxy statement beginning with the "Compensation Discussion and Analysis" on page 50, which describes in detail our executive compensation programs and the decisions made by our PC&C committee and our board with respect to the fiscal year ended December 31, 2020.

As we describe in the "Compensation Discussion and Analysis," we maintain straight-forward executive compensation programs that generally consist of base salary, an annual cash incentive award and equity incentive awards upon the commencement of employment and annually thereafter. These elements of compensation have been selected by our PC&C committee because the committee believes that they effectively achieve the fundamental goals of our compensation program, which are to attract, motivate and retain qualified and talented executives, who are critical to our success, motivating them to achieve our business goals and rewarding them for superior short- and long-term performance. The goal of our PC&C committee is to ensure that our compensation programs are aligned with the interests of our stockholders and our business goals in order to attain our ultimate objective of increasing stockholder value. We believe that, consistent with these goals, the total compensation paid to each of our NEOs is fair, reasonable and competitive. Further, we believe our programs do not encourage excessive risk-taking by management, as supported by the assessment described above conducted by Radford, an independent compensation consultant to the PC&C committee.

With very limited exceptions, we do not provide any compensation or benefit plans to executive officers that are not also available to other employees. We generally differentiate among executive officers primarily based on size of annual cash incentive awards and annual equity incentive awards and, to a lesser extent, base salary. Annual compensation decisions for executive officers are made by our PC&C committee, and, in the case of our CEO, recommended to our board of directors for approval, based on the achievement of specified corporate performance goals, and with respect to base salary and annual equity incentive awards, consideration of the executive officer's individual contributions to the achievement of the corporate goals, as described above under "Compensation Discussion and Analysis."

Our board of directors is asking stockholders to approve, on a non-binding advisory basis, the following resolution:

RESOLVED, that the compensation paid to the named executive officers of Alnylam Pharmaceuticals, Inc., as disclosed pursuant to the compensation disclosure rules of the SEC, including the compensation discussion and analysis, the compensation tables and any related material disclosed in the proxy statement of Alnylam Pharmaceuticals, Inc., is hereby approved.

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 PC&C committee and 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 NEOs.

## **BOARD RECOMMENDATION**

**Our board of directors unanimously recommends that you vote to approve the compensation of our named executive officers by voting “FOR” Proposal 2.**

## **RATIFICATION OF APPOINTMENT OF INDEPENDENT AUDITORS (PROPOSAL 3)**

Our board has appointed the firm of PricewaterhouseCoopers LLP, an independent registered public accounting firm, as independent auditors for the fiscal year ending December 31, 2021. Although stockholder approval of our board's appointment of PricewaterhouseCoopers LLP is not required by law, our board believes 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. Representatives of PricewaterhouseCoopers LLP are expected to participate in the annual meeting and will have the opportunity to make a statement, if they desire to do so, and will be available to respond to appropriate questions from our stockholders.

### **BOARD RECOMMENDATION**

**Our board of directors unanimously recommends a vote "FOR" the ratification of the appointment of PricewaterhouseCoopers LLP as our independent auditors for the fiscal year ending December 31, 2021.**

## AUDIT INFORMATION

### Report of the Audit Committee

Our audit committee reports to and acts on behalf of our board by providing oversight of our financial management, related person transaction policies and procedures, audits of our financial statements and financial reporting controls and accounting policies and procedures. Our management is responsible for the preparation, presentation and integrity of our financial statements, the appropriateness of our accounting principles and reporting policies, and for establishing and maintaining adequate internal control over financial reporting. The independent registered public accounting firm is responsible for conducting an independent audit of our annual financial statements and our internal control over financial reporting. Our audit committee is responsible for independently overseeing the conduct of these activities by our management and our independent registered public accounting firm.

Our audit committee operates under a written charter adopted by our board that reflects standards contained in the Nasdaq Marketplace Rules. Our audit committee reviews its charter annually. A complete copy of the current audit committee charter is posted on the Corporate Governance page of the Investors section of our website, [www.alnylam.com](http://www.alnylam.com).

Our audit committee has reviewed our audited financial statements for the fiscal year ended December 31, 2020, and has discussed them with our management and our independent registered public accounting firm, PricewaterhouseCoopers LLP. Our audit committee has also received from, and discussed with, PricewaterhouseCoopers LLP various communications that PricewaterhouseCoopers LLP is required to provide to our audit committee, including the matters required to be discussed by the Public Company Accounting Oversight Board, or PCAOB, Auditing Standard No. 1301, *Communications with Audit Committees*, which requires the independent registered public accounting firm to provide the audit committee with additional information regarding the scope and results of the audit, including the independent registered public accounting firm's responsibilities under PCAOB standards, significant issues or disagreements concerning our accounting practices or financial statements, significant accounting policies, critical accounting estimates, alternative accounting treatments, accounting for significant unusual transactions, and other judgments and uncertainties.

In addition, PricewaterhouseCoopers LLP provided our audit committee with the written disclosures and the letter required by PCAOB Rule 3526, *Communication with Audit Committees Concerning Independence*, as amended, and our audit committee and PricewaterhouseCoopers LLP have discussed its independence from us and our management, including the matters in those written disclosures.

In this context, our audit committee meets regularly with PricewaterhouseCoopers LLP and our management (including private sessions with each of PricewaterhouseCoopers LLP and members of management) to discuss any matters that our audit committee or these individuals believe should be discussed, including the matters required by the applicable requirements of the PCAOB and the SEC. Our audit committee conducts a meeting each quarter to review the financial statements prior to the public release of earnings.



Based on its discussions with management and PricewaterhouseCoopers LLP, and its review of the representations and information provided by management and PricewaterhouseCoopers LLP, our audit committee recommended to our board that the audited financial statements be included in our Annual Report on Form 10-K for the year ended December 31, 2020. Our audit committee also recommended to our board, and our board has approved, subject to stockholder ratification, the appointment of PricewaterhouseCoopers LLP as our independent auditors for the fiscal year ending December 31, 2021.

By the audit committee of the board of directors of Alnylam,

Marsha H. Fanucci, Chair  
Michael W. Bonney  
Colleen F. Reitan

## Principal Accountant Fees and Services

The following table summarizes the fees that our independent auditors, PricewaterhouseCoopers LLP, an independent registered public accounting firm, billed to us for each of the last two fiscal years for audit and other services.

Fee Category	2020(\$)	2019(\$)
Audit Fees(1)	2,274,275	2,016,549
Audit-Related Fees	—	—
Tax Fees(2)	70,000	65,000
All Other Fees(3)	2,756	2,756
<b>Total Fees</b>	<b>2,347,031</b>	<b>2,084,305</b>

- (1) "Audit Fees" consist of fees for the audit of our annual financial statements, the review of the interim financial statements included in our quarterly reports on Form 10-Q, statutory audits of our international operations, and other professional services provided in connection with SEC filings or audit engagements. In 2020, this amount also includes \$15,000 for fees in connection with the review of the consolidated financial statements incorporated by reference into our outstanding registration statements.
- (2) "Tax Fees" in 2020 and 2019 consist of fees for procedures completed in connection with a research and development tax credit study.
- (3) "All Other Fees" in 2020 and 2019 represent non-audit fees in connection with access to the PricewaterhouseCoopers LLP on-line accounting research and disclosures database.

All such accountant services and fees were pre-approved by our audit committee in accordance with the "Pre-Approval Policies and Procedures" described below.

## Pre-Approval Policies and Procedures

Our audit committee is required to pre-approve all audit services to be provided to us by our principal independent auditors, as well as all other services to be provided to us by such independent auditors, except that de minimis non-audit services may be approved in accordance with applicable SEC rules.

## ADDITIONAL INFORMATION AND OTHER MATTERS

### CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

#### Policies and Procedures for Related Person Transactions

Our board has adopted written policies and procedures for the review of any transaction, arrangement or relationship in which Alnylam is a participant, the amount involved exceeds \$120,000, and one of our executive officers, directors, director nominees or 5% stockholders (or their immediate family members), each of whom we refer to as a “related person,” has a direct or indirect material interest.

If a related person proposes to enter into such a transaction, arrangement or relationship, which we refer to as a “related person transaction,” the related person must report the proposed related person transaction to our general counsel and our chief financial officer. The policy calls for the proposed related person transaction to be reviewed by our general counsel and/or our chief financial officer and, if deemed appropriate, approved by our audit committee. Whenever practicable, the reporting, review and approval will occur prior to entry into the transaction. If advance review and approval is not practicable, our audit committee will review, and, in its discretion, may ratify the related person transaction. The policy also permits the chair of our audit committee to review and, if deemed appropriate, approve proposed related person transactions that arise between committee meetings, subject to ratification by our audit committee at its next meeting. Any related person transactions that are ongoing in nature will be reviewed annually.

A related person transaction reviewed under the policy will be considered approved or ratified if it is authorized by our audit committee after full disclosure of the related person’s interest in the transaction. As appropriate for the circumstances, our audit committee will review and consider:

- the related person’s interest in the related person transaction;
- the approximate dollar value of the amount involved in the related person transaction;
- the approximate dollar value of the amount of the related person’s interest in the transaction without regard to the amount of any profit or loss;
- whether the transaction was undertaken in the ordinary course of our business;
- whether the terms of the transaction are no less favorable to us than terms that could have been reached with an unrelated third party;
- the purpose of, and the potential benefits to us of, the transaction; and
- any other information regarding the related person transaction or the related person in the context of the proposed transaction that would be material to investors in light of the circumstances of the particular transaction.

Our audit committee may approve or ratify the transaction if the committee determines that, under all of the circumstances, the transaction is not inconsistent with our best interests. Our audit committee may impose any conditions on the related person transaction that it deems appropriate.

In addition to related person transactions that are excluded by the instructions to the SEC's related person transaction disclosure rule, our board has determined that the following transactions do not create a material direct or indirect interest on behalf of related persons and, therefore, are not related person transactions for purposes of this policy:

- interests arising solely from the related person's position as an executive officer of another entity (whether or not the person is also a director of such entity), that is a participant in the transaction, where (a) the related person and all other related persons own in the aggregate less than a 10% equity interest in such entity, and (b) the related person and his or her immediate family members are not involved in the negotiation of the terms of the transaction and do not receive any special benefits as a result of the transaction; and
- a transaction that is specifically contemplated by provisions of our Charter or bylaws.

The policy provides that transactions involving the compensation of our executive officers shall be reviewed and approved by our PC&C committee in the manner specified in its charter.

In addition to the policy described above, we have adopted a number of internal procedures to assist with the identification and approval of any related person transactions, including annual questionnaires to our directors and officers, quarterly questionnaires to certain legal, human resource and finance personnel, and quarterly review with our audit committee and independent registered public accounting firm.

### **Related Person Transactions**

In December 2017, we entered into a six-month consulting agreement with Dr. Mark Keating pursuant to which Dr. Keating would provide us with assistance, on a full-time basis, with our early stage target evaluation and research efforts. In July 2018, we entered into a six-month extension of Dr. Keating's consulting agreement in connection with the continuation of the services. In January 2019, we entered into an additional six-month extension, pursuant to which we agreed to pay Dr. Keating up to a maximum of \$150,000 in connection with the continued performance of his services. In April 2019, Dr. Keating was hired as a full-time employee, to serve as a Senior Distinguished Fellow, supporting our development efforts in our CNS and ocular programs. During the fiscal year ended December 31, 2020, he earned compensation consisting of \$672,830 in base salary, bonus, matching contributions from us under our 401(k) plan and life insurance premiums, as well as option awards with an estimated grant date fair value of \$172,440. Dr. Keating is the spouse of Laurie Keating, one of our executive officers. The initial transaction with Dr. Keating, as well as the subsequent extensions and offer for full-time employment, were approved in advance by the chair of our audit committee and subsequently ratified by the full audit committee pursuant to our related person transaction policy.

Other than the employment relationship with Dr. Keating described above, we have not been a participant in any transaction, nor is there any currently proposed transaction, that is currently reportable under Item 404(a) of Regulation S-K.

## OTHER MATTERS

Our board of directors does not know of any other matters which may come before the meeting. However, if any other matters are properly presented to the meeting, it is the intention of the persons named in the accompanying proxy card to vote, or otherwise act, in accordance with their judgment on those matters.

## STOCKHOLDER PROPOSALS

In order to be included in the proxy materials for the 2022 annual meeting of stockholders, stockholders' proposals must be received by us at our principal executive offices, 675 West Kendall Street, Henri A. Termeer Square, Cambridge, Massachusetts 02142 no later than December 1, 2021. We suggest that proponents submit their proposals by certified mail, return receipt requested, addressed to our Corporate Secretary.

In addition, our bylaws require that we be given advance notice of stockholder nominations for election to our board of directors and of other matters which stockholders wish to present for action at an annual meeting of stockholders, other than matters included in our proxy statement. The required notice must be in writing and received by our corporate secretary at our principal offices not later than February 17, 2022 (90 days prior to the first anniversary of our 2021 annual meeting of stockholders) and not before January 18, 2022 (120 days prior to the first anniversary of our 2021 annual meeting of stockholders). However, if the 2022 annual meeting of stockholders is advanced by more than 20 days, or delayed by more than 60 days, from the first anniversary of the 2021 annual meeting of stockholders, notice must be received not earlier than the 120<sup>th</sup> day prior to such annual meeting and not later than the close of business on the later of (1) the 90<sup>th</sup> day prior to such annual meeting and (2) the 10<sup>th</sup> day following the date on which notice of the date of such annual meeting was mailed or public disclosure of the date of such annual meeting was made, whichever occurs first.

Our bylaws also specify requirements relating to the content of the notice which stockholders must provide, including a stockholder nomination for election to our board of directors, to be properly presented at the 2022 annual meeting of stockholders.

**OUR BOARD OF DIRECTORS ENCOURAGES STOCKHOLDERS TO PARTICIPATE ONLINE IN OUR VIRTUAL ANNUAL MEETING. WHETHER OR NOT YOU PLAN TO PARTICIPATE IN THE VIRTUAL ANNUAL MEETING, YOU ARE URGED TO VOTE BY PROXY OVER THE INTERNET, BY TELEPHONE OR BY MAIL AS DESCRIBED IN THE ENCLOSED PROXY CARD. A PROMPT RESPONSE WILL GREATLY FACILITATE ARRANGEMENTS FOR THE VIRTUAL ANNUAL MEETING AND YOUR COOPERATION WILL BE APPRECIATED. YOU WILL NOT BE ABLE TO ATTEND THE ANNUAL MEETING IN PERSON.**

[Table of Contents](#)

ALNYLAM PHARMACEUTICALS, INC.  
 ATTN: SECRETARY  
 675 WEST KENDALL STREET  
 HENRI A. TERMEER SQUARE  
 CAMBRIDGE, MA 02142

**VOTE BY INTERNET**  
*Before The Meeting* - Go to [www.proxyvote.com](http://www.proxyvote.com)

Use the Internet to transmit your voting instructions and for electronic delivery of information. Vote by 11:59 p.m. Eastern Time on May 17, 2021 for shares held directly and by 11:59 p.m. Eastern Time on May 13, 2021 for shares held in a 401(k) Plan. Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and to create an electronic voting instruction form.

*During The Meeting* - Go to [www.virtualshareholdermeeting.com/ALNY2021](http://www.virtualshareholdermeeting.com/ALNY2021)

You may attend the meeting via the Internet and vote during the meeting. Have the information that is printed in the box marked by the arrow available and follow the instructions. There will be no physical location at which stockholders may attend the meeting.

**VOTE BY PHONE - 1-800-690-6903**

Use any touch-tone telephone to transmit your voting instructions. Vote by 11:59 p.m. Eastern Time on May 17, 2021 for shares held directly and by 11:59 p.m. Eastern Time on May 13, 2021 for shares held in a 401(k) Plan. Have your proxy card in hand when you call and then follow the instructions.

**VOTE BY MAIL**

If you received printed proxy materials, mark, sign and date your proxy card and return it in the postage-paid envelope we have provided or return it to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood, NY 11717.

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK AS FOLLOWS:

D41312-P51903-Z79366

KEEP THIS PORTION FOR YOUR RECORDS

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DETACH AND RETURN THIS PORTION ONLY

**THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.**

ALNYLAM PHARMACEUTICALS, INC.

**Proposals — The Board of Directors recommends you vote FOR each of the listed director nominees to serve for a term ending in 2024 and FOR Proposals 2 and 3.**

	For	Against	Abstain	
1. To elect the following nominees as Class II directors of Alnylam:				
1a. Dennis A. Ausiello, M.D.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1b. Olivier Brandicourt, M.D.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1c. Marsha H. Fanucci	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1d. David E.I. Pyott	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<b>For</b>	<b>Against</b>	<b>Abstain</b>
2. To approve, in a non-binding advisory vote, the compensation of Alnylam's named executive officers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. To ratify the appointment of PricewaterhouseCoopers LLP, an independent registered public accounting firm, as Alnylam's independent auditors for the fiscal year ending December 31, 2021.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

In their discretion, the Proxies are authorized to vote upon any other business that may properly come before the annual meeting or at any adjournment(s) thereof.

Please sign exactly as your name(s) appear(s) hereon. When signing as attorney, executor, administrator, or other fiduciary, please give full title as such. Joint owners should each sign personally. All holders must sign. If a corporation or partnership, please sign in full corporate or partnership name by authorized officer.

Signature [PLEASE SIGN WITHIN BOX]	Date

Signature (Joint Owners)	Date

**Important Notice Regarding the Availability of Proxy Materials for the Virtual Annual Meeting of Stockholders to be Held on May 18, 2021:**

The 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](http://www.proxyvote.com).

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**Proxy — ALNYLAM PHARMACEUTICALS, INC.**

**VIRTUAL ANNUAL MEETING OF STOCKHOLDERS**

**To be held on May 18, 2021 at 10:30 a.m., Eastern Time**

**This Proxy is solicited on behalf of the Board of Directors of Alnylam Pharmaceuticals, Inc. ("Alnylam").**

The undersigned, having received notice of the annual meeting of stockholders and the proxy statement therefor and revoking all prior proxies, hereby appoints each of John M. Maraganore, Ph.D., Laurie B. Keating and Jeffrey V. Poulton (each with full power of substitution), as Proxies of the undersigned, to participate in the annual meeting of stockholders of Alnylam to be held online at 10:30 a.m., Eastern Time, on Tuesday, May 18, 2021, and any adjourned or postponed session thereof, and there to vote and act as indicated upon the matters on the reverse side in respect of all shares of common stock which the undersigned would be entitled to vote or act upon, with all powers the undersigned would possess if personally present.

You can revoke your proxy at any time before it is voted at the annual meeting by (i) submitting another properly completed proxy bearing a later date; (ii) giving written notice of revocation to the Secretary of Alnylam; (iii) if you submitted a proxy through the Internet or by telephone, by submitting a proxy again through the Internet or by telephone prior to the close of the Internet voting facility or the telephone voting facility; or (iv) voting online at the annual meeting. If you hold any of the shares of common stock in a fiduciary, custodial or joint capacity or capacities, this proxy is signed by you in every such capacity as well as individually.

**The shares of common stock of Alnylam represented by this proxy will be voted as directed by you for the proposals herein proposed by Alnylam. If no direction is given with respect to a proposal specified herein, this proxy will be voted in accordance with the recommendation of the Board of Directors. In their discretion, the Proxies are authorized to vote upon any other business that may properly come before the annual meeting or any adjournment(s) thereof.**

Please vote, date and sign on reverse side and return promptly in the enclosed pre-paid envelope.

Your vote is important. Please vote immediately.

**CONTINUED AND TO BE SIGNED ON REVERSE SIDE SEE  
REVERSE SIDE**