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

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of
the Securities Exchange Act of 1934 (Amendment No.)

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 under §240.14a-12

RUBIUS THERAPEUTICS, INC.

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- No fee required.
- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.
 - (1) Title of each class of securities to which transaction applies: _____
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 - (4) Proposed maximum aggregate value of transaction: _____
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- Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.
 - (1) Amount Previously Paid: _____
 - (2) Form, Schedule or Registration Statement No.: _____
 - (3) Filing Party: _____
 - (4) Date Filed: _____



RUBIUS THERAPEUTICS, INC.
399 Binney Street, Suite 300
Cambridge, Massachusetts 02139
NOTICE OF 2020 ANNUAL MEETING OF STOCKHOLDERS
To be held May 21, 2020

Notice is hereby given that the 2020 Annual Meeting of Stockholders, or Annual Meeting, of Rubius Therapeutics, Inc., which will be held on May 21, 2020 at 9:00 a.m. Eastern Time. The Annual Meeting will be completely virtual. You may attend the meeting, submit questions, and vote your shares electronically during the meeting via live webcast by visiting www.virtualshareholdermeeting.com/RUBY2020. The purpose of the Annual Meeting is the following:

1. To elect three class II directors to our board of directors, to serve until the 2023 annual meeting of stockholders and until his or her successor has been duly elected and qualified, or until his or her earlier death, resignation or removal;
2. To ratify the appointment of PricewaterhouseCoopers LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2020; and
3. To transact any other business properly brought before the Annual Meeting or any adjournment or postponement of the Annual Meeting.

The proposal for the election of directors relates solely to the election of class II directors nominated by the board of directors.

Only Rubius Therapeutics, Inc. stockholders of record at the close of business on March 24, 2020, will be entitled to vote at the Annual Meeting and any adjournment or postponement thereof.

We are pleased to take advantage of Securities and Exchange Commission rules that allow companies to furnish their proxy materials over the Internet. We are mailing to our stockholders a Notice of Internet Availability of Proxy Materials, or Notice, instead of a paper copy of our proxy materials and our Annual Report on Form 10-K for the fiscal year ended December 31, 2019, or 2019 Annual Report. The Notice contains instructions on how to access those documents and to cast your vote via the Internet. The Notice also contains instructions on how to request a paper copy of our proxy materials and our 2019 Annual Report. This process allows us to provide our stockholders with the information they need on a more timely basis, while reducing the environmental impact and lowering the costs of printing and distributing our proxy materials.

Your vote is important. Whether or not you are able to attend the meeting online, it is important that your shares be represented. To ensure that your vote is recorded promptly, please vote as soon as possible, even if you plan to attend the meeting online, by submitting your proxy via the Internet at the address listed on the proxy card or by signing, dating and returning the proxy card.

By order of the board of directors,

A handwritten signature in black ink, appearing to read "Pablo J. Cagnoni", is written over a horizontal line. The signature is fluid and cursive.

Pablo J. Cagnoni
Chief Executive Officer

Cambridge, Massachusetts
April 9, 2020

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RUBIUS THERAPEUTICS, INC.
399 Binney Street, Suite 300
Cambridge, Massachusetts 02139
PROXY STATEMENT
FOR THE 2020 ANNUAL MEETING OF STOCKHOLDERS
TO BE HELD MAY 21, 2020

This proxy statement contains information about the 2020 Annual Meeting of Stockholders, or the Annual Meeting, of Rubius Therapeutics, Inc., which will be held on May 21, 2020 at 9:00 AM Eastern Time. The board of directors of Rubius Therapeutics, Inc. is using this proxy statement to solicit proxies for use at the Annual Meeting. In this proxy statement, the terms "Rubius," "we," "us," and "our" refer to Rubius Therapeutics, Inc. The mailing address of our principal executive offices is Rubius Therapeutics, Inc., 399 Binney Street, Suite 300, Cambridge, Massachusetts 02139.

All properly submitted proxies will be voted in accordance with the instructions contained in those proxies. If no instructions are specified, the proxies will be voted in accordance with the recommendation of our board of directors with respect to each of the matters set forth in the accompanying Notice of Meeting. You may revoke your proxy at any time before it is exercised at the meeting by giving our corporate secretary written notice to that effect.

We made this proxy statement and our Annual Report on Form 10-K for the fiscal year ended December 31, 2019 available to stockholders on April 9, 2020.

We are an "emerging growth company" under applicable federal securities laws and therefore permitted to conform with certain reduced public company reporting requirements. As an emerging growth company, we provide in this proxy statement the scaled disclosure permitted under the Jumpstart Our Business Startups Act of 2012. In addition, as an emerging growth company, we are not required to conduct votes seeking approval, on an advisory basis, of the compensation of our named executive officers or the frequency with which such votes must be conducted. We will remain an "emerging growth company" until the earliest of (i) the last day of the fiscal year following the fifth anniversary of our initial public offering in June 2018; (ii) the last day of the fiscal year in which our total annual gross revenue is equal to or more than \$1.07 billion; (iii) the date on which we have issued more than \$1 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the Securities and Exchange Commission.

**Important Notice Regarding the Availability of Proxy Materials for
the Annual Meeting of Stockholders to be Held on May 21, 2020:**
**This proxy statement and our Annual Report on Form 10-K are
available for viewing, printing and downloading at www.proxyvote.com.**

A copy of our Annual Report on Form 10-K for the fiscal year ended December 31, 2019, as filed with the Securities and Exchange Commission (SEC) on March 12, 2020, except for exhibits, will be furnished without charge to any stockholder upon written request to Rubius Therapeutics, Inc., 399 Binney Street, Suite 300, Cambridge, Massachusetts 02139, Attention: Corporate Secretary. This proxy statement and our Annual Report on Form 10-K for the fiscal year ended December 31, 2019 are also available on the SEC's website at www.sec.gov.

RUBIUS THERAPEUTICS, INC.
PROXY STATEMENT
FOR THE 2020 ANNUAL MEETING OF STOCKHOLDERS

GENERAL INFORMATION

When are this proxy statement and the accompanying materials scheduled to be sent to stockholders?

We have elected to provide access to our proxy materials to our stockholders via the Internet. Accordingly, on or about April 9, 2020, we will begin mailing a Notice of Internet Availability of Proxy Materials, or Notice. Our proxy materials, including the Notice of 2020 Annual Meeting of Stockholders, this proxy statement and the accompanying proxy card or, for shares held in street name (i.e. held for your account by a broker or other nominee), a voting instruction form, and the Annual Report on Form 10-K for the fiscal year ended December 31, 2019, or 2019 Annual Report, will be mailed or made available to stockholders on the Internet on or about the same date.

Why did I receive a Notice of Internet Availability of Proxy Materials instead of a full set of proxy materials?

Pursuant to rules adopted by the Securities and Exchange Commission, or SEC, for most stockholders, we are providing access to our proxy materials over the Internet rather than printing and mailing our proxy materials. We believe following this process will expedite the receipt of such materials and will help lower our costs and reduce the environmental impact of our annual meeting materials. Therefore, the Notice was mailed to holders of record and beneficial owners of our common stock as of the record date starting on or about April 9, 2020. The Notice provides instructions as to how stockholders may access and review our proxy materials, including the Notice of 2020 Annual Meeting of Stockholders, this proxy statement, the proxy card and our 2019 Annual Report, on the website referred to in the Notice or, alternatively, how to request that a copy of the proxy materials, including a proxy card, be sent to them by mail. The Notice also provides voting instructions. In addition, stockholders of record may request to receive the proxy materials in printed form by mail or electronically by e-mail on an ongoing basis for future stockholder meetings. Please note that, while our proxy materials are available at the website referenced in the Notice, and our Notice of 2020 Annual Meeting of Stockholders, this proxy statement and our 2019 Annual Report are available on our website, no other information contained on either website is incorporated by reference in or considered to be a part of this proxy statement.

Who is soliciting my vote?

Our board of directors is soliciting your vote for the Annual Meeting.

When is the record date for the Annual Meeting?

The record date for determination of stockholders entitled to vote at the Annual Meeting is the close of business on March 24, 2020.

How many votes can be cast by all stockholders?

There were 80,428,403 shares of our common stock, par value \$0.001 per share, outstanding on March 24, 2020, all of which are entitled to vote with respect to all matters to be acted upon at the Annual Meeting. Each stockholder of record is entitled to one vote for each share of our common stock held by such stockholder. None of our shares of undesignated preferred stock were outstanding as of March 24, 2020.

How do I vote?

By attending the Annual Meeting Online

If you are a stockholder of record, you may vote online at the Annual Meeting by attending the Annual Meeting online and following the instructions posted at www.virtualshareholdermeeting.com/RUBY2020. If you hold your shares through a bank or broker and wish to vote online at the meeting, you must obtain a valid proxy from the firm that holds your shares.

By Proxy

If you do not wish to attend the Annual Meeting online, you may vote by proxy. You can vote by proxy over the Internet by following the instructions provided in the Notice, or, if you requested printed copies of the proxy materials by mail, you can vote by mailing your proxy as described in the proxy materials. In order to be counted, proxies submitted by Internet must be received by the cutoff time of 11:59 p.m. Eastern Time on May 20, 2020. Proxies submitted by mail must be received before the start of the Annual Meeting.

If you complete and submit your proxy before the Annual Meeting, the persons named as proxies will vote the shares represented by your proxy in accordance with your instructions. If you submit a proxy without giving voting instructions, your shares will be voted in the manner recommended by the board of directors on all matters presented in this proxy statement, and as the persons named as proxies may determine in their discretion with respect to any other matters properly presented at the Annual Meeting. You may also authorize another person or persons to act for you as proxy in a writing, signed by you or your authorized representative, specifying the details of those proxies' authority. The original writing must be given to each of the named proxies, although it may be sent to them by electronic transmission if, from that transmission, it can be determined that the transmission was authorized by you.

If any other matters are properly presented for consideration at the Annual Meeting, including, among other things, consideration of a motion to adjourn the Annual Meeting to another time or place (including, without limitation, for the purpose of soliciting additional proxies), the persons named in your proxy and acting thereunder will have discretion to vote on those matters in accordance with their best judgment. We do not currently anticipate that any other matters will be raised at the Annual Meeting.

How do I revoke my proxy?

You may revoke your proxy by (1) following the instructions on the Notice and entering a new vote by mail that we receive before the start of the Annual Meeting or over the Internet by the cutoff time of 11:59 p.m. Eastern Time on May 20, 2020, (2) attending online and voting by following the instructions at www.virtualshareholdermeeting.com/RUBY2020, or (3) by filing an instrument in writing revoking the proxy or another duly executed proxy bearing a later date with our Corporate Secretary. Any written notice of revocation or subsequent proxy card must be received by our Corporate Secretary prior to the taking of the vote at the Annual Meeting. Such written notice of revocation or subsequent proxy card should be hand delivered to our Corporate Secretary or sent to our principal executive offices at Rubius Therapeutics, Inc., 399 Binney Street, Suite 300, Cambridge, Massachusetts 02139, Attention: Corporate Secretary.

If a broker, bank, or other nominee holds your shares, you must contact such broker, bank, or nominee in order to find out how to change your vote.

How do I attend the Virtual Annual Meeting?

This year's Annual Meeting will be held entirely online due to the emerging public health impact of the coronavirus outbreak (COVID-19) and to support the health and well-being of our partners, employees, and stockholders. Stockholders of record as of March 24, 2020, will be able to attend and participate in the Annual Meeting online by accessing www.virtualshareholdermeeting.com/RUBY2020. To join the Annual Meeting, you will need to have your 16 digit control number, which is included on your Notice and your proxy card. Even if you plan to attend the Annual Meeting online, we recommend that you also vote by proxy as described herein so that your vote will be counted if you decide not to attend the Annual Meeting.

Access to the Audio Webcast of the Annual Meeting

The live audio webcast of the Annual Meeting will begin promptly at 9:00 a.m. Eastern Time. Online access to the audio webcast will open approximately thirty minutes prior to the start of the Annual Meeting to allow time for you to log in and test the computer audio system. We encourage our stockholders to access the meeting prior to the start time.

Log in Instructions

To attend the online Annual Meeting, log in at www.virtualshareholdermeeting.com/RUBY2020. Stockholders will need their 16 digit control number, which appears on the Notice and the instructions that accompanied the proxy materials. In the event that you do not have a control number, please contact your broker, bank, or other nominee as soon as possible, so that you can be provided with a control number and gain access to the meeting.

Submitting Questions at the Virtual Annual Meeting

As part of the Annual Meeting, we will hold a live question and answer session, during which we intend to answer questions submitted during the meeting via the Q&A tool in accordance with the Annual Meeting's Rules of Conduct that are pertinent to the Company and the meeting matters, as time permits. Questions and answers will be grouped by topic and substantially similar questions will be grouped and answered once.

The Annual Meeting's Rules of Conduct will be posted on www.virtualshareholdermeeting.com/RUBY2020 approximately two weeks prior to the date of the Annual Meeting.

Annual Meeting Technical Assistance

Beginning 30 minutes prior to the start of and during the virtual Annual Meeting, we will have support team ready to assist stockholders with any technical difficulties they may have accessing or hearing the virtual meeting. If you encounter any difficulties accessing the virtual meeting during the check-in or meeting time, please call the technical support number that will be posted on the virtual shareholder meeting log-in page.

Availability of Live Webcast to Team Members and Other Constituents

The live audio webcast will be available to not only our stockholders but also our team members and other constituents.

How is a quorum reached?

Our Amended and Restated Bylaws, or bylaws, provide that a majority of the shares entitled to vote, present in person or represented by proxy, will constitute a quorum for the transaction of business at the Annual Meeting.

Under the General Corporation Law of the State of Delaware, shares that are voted "abstain" or "withheld" and broker "non-votes" are counted as present for purposes of determining whether a quorum is present at the Annual Meeting. If a quorum is not present, the meeting may be adjourned until a quorum is obtained.

How is the vote counted?

Under our bylaws, any proposal other than an election of directors is decided by a majority of the votes properly cast for and against such proposal, except where a larger vote is required by law or by our Amended and Restated Certificate of Incorporation, or certificate of incorporation, or bylaws. Abstentions and broker "non-votes" are not included in the tabulation of the voting results on any such proposal and, therefore, do not have an impact on such proposals. A broker "non-vote" occurs when a nominee holding shares for a beneficial owner does not vote on a particular proposal because the nominee does not have discretionary voting power with respect to that item, and has not received instructions from the beneficial owner.

If your shares are held in "street name" by a brokerage firm, your brokerage firm is required to vote your shares according to your instructions. If you do not give instructions to your brokerage firm, the brokerage firm will still be able to vote your shares with respect to certain "discretionary" items, but will not be allowed to vote your shares with respect to "non-discretionary" items. Proposal No. 1 is a "non-discretionary" item. If you do not instruct your broker how to vote with respect to this proposal, your broker may not vote for this proposal, and those votes will be counted as broker "non-votes." Proposal No. 2 is considered to be a discretionary item, and your brokerage firm will be able to vote on this proposal even if it does not receive instructions from you.

To be elected, the directors nominated via Proposal No. 1 must receive a plurality of the votes cast and entitled to vote on the proposal, meaning that the director nominees receiving the most votes will be elected. Shares voting "withheld" have no effect on the election of directors.

Who pays the cost for soliciting proxies?

We are making this solicitation and will pay the entire cost of preparing and distributing the Notice and our proxy materials and soliciting votes. If you choose to access the proxy materials or vote over the Internet, you are responsible for any Internet access charges that you may incur. Our officers and employees may, without compensation other than their regular compensation, solicit proxies through further mailings, personal conversations, facsimile transmissions, e-mails, or otherwise. We have hired Broadridge Financial Solutions, Inc. to assist us in the distribution of proxy materials. Proxy solicitation expenses that we will pay include those for preparation, mailing, returning, and tabulating the proxies.

How may stockholders submit matters for consideration at an annual meeting?

The required notice must be in writing and received by our Corporate Secretary at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary of the preceding year's annual meeting. However, in the event that the date of the annual meeting is advanced by more than 30 days, or delayed by more than 60 days, from the first anniversary of the preceding year's annual meeting, or if no annual meeting were held in the preceding year, a stockholder's notice must be so received no earlier than the 120th day prior to such annual meeting and not later than the close of business on the later of (A) the 90th day prior to such annual meeting and (B) the tenth day following the day 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 first occurs.

In addition, nominations or any other stockholder proposal intended to be included in the proxy statement for the next annual meeting of our stockholders in 2021 must also satisfy the requirements of

SEC Rule 14a-8 under the Securities Exchange Act of 1934, as amended, or the Exchange Act, and be received not later than December 9, 2020. If the date of the annual meeting is moved by more than 30 days from the date contemplated at the time of the previous year's proxy statement, then notice must be received within a reasonable time before we begin to print and send proxy materials. If that happens, we will publicly announce the deadline for submitting a proposal in a press release or in a document filed with the SEC.

How can I know the voting results?

We plan to announce preliminary voting results at the Annual Meeting and will publish final results in a Current Report on Form 8-K to be filed with the SEC within four business days following the Annual Meeting.

OVERVIEW OF PROPOSALS

This Proxy Statement contains two proposals requiring stockholder action. Proposal 1 requests the election of three Class II Directors to the Board of Directors. Proposal 2 requests the ratification of the appointment of PricewaterhouseCoopers LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2020. Each of the proposals is discussed in more detail in the pages that follow.

PROPOSAL NO. 1—ELECTION OF CLASS II DIRECTORS

Our board of directors currently consists of nine members. In accordance with the terms of our certificate of incorporation and bylaws, our board of directors is divided into three classes, class I, class II and class III, with members of each class serving staggered three-year terms. The members of the classes are divided as follows:

- the class I directors are David R. Epstein, Natalie Holles, and Anne Prener, and their terms will expire at the annual meeting of stockholders to be held in 2022;
- the class II directors are Noubar B. Afeyan, Michael Rosenblatt, and Catherine A. Sohn, and their terms will expire at the Annual Meeting; and
- the class III directors are Pablo J. Cagnoni, Francis Cuss, and Sir Jonathan R. Symonds, and their terms will expire at the annual meeting of stockholders to be held in 2021.

Upon the expiration of the term of a class of directors, directors in that class will be eligible to be elected for a new three-year term at the annual meeting of stockholders in the year in which their term expires.

Our certificate of incorporation and bylaws provide that the authorized number of directors may be changed only by resolution of our board of directors. Our certificate of incorporation also provides that our directors may be removed only for cause by the affirmative vote of the holders of at least two-thirds ($\frac{2}{3}$) of the outstanding shares then entitled to vote in an annual election of directors, and that any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by vote of a majority of our directors then in office.

Our board of directors has nominated Noubar B. Afeyan, Michael Rosenblatt, and Catherine A. Sohn for election as the class II directors at the Annual Meeting. The nominees are presently directors, and have indicated a willingness to continue to serve as directors, if elected. If the nominees become unable or unwilling to serve, however, the proxies may be voted for a substitute nominee selected by our board of directors.

Nominees for Election as Class II Directors

The following table identifies our directors, and sets forth their principal occupation and business experience during the last five years and their ages as of March 24, 2020.

Name	Positions and Offices		
	Held with Rubius	Director Since	Age
Noubar B. Afeyan, Ph.D.	Director	2013	57
Michael Rosenblatt, M.D.	Director	2014	72
Catherine A. Sohn, Pharm.D.	Director	2018	67

Noubar B. Afeyan, Ph.D. has served as a member of our board of directors since 2013. Previously, Dr. Afeyan served as our President from April 2013 to May 2014 and as the Chairman of our board of directors from April 2013 to December 2014 and from July 2016 to January 2017. In 1999, Dr. Afeyan founded Flagship Pioneering and serves as its Senior Managing Partner and Chief Executive Officer.

Since December 2010, Dr. Afeyan has served on the board of directors of Moderna, Inc. He currently serves on the boards of numerous privately held companies, and has previously served on the boards of numerous privately and publicly held companies, including Seres Therapeutics, Inc., Evelo Biosciences, Inc., Kaleido Biosciences, Inc. and BG Medicine, Inc. He received a Ph.D. in biochemical engineering from the Massachusetts Institute of Technology and a B.S. in chemical engineering from McGill University. Dr. Afeyan is currently a visiting lecturer of business administration at Harvard Business School and was previously a senior lecturer at the Massachusetts Institute of Technology's Sloan School of Management where he taught courses on technology-entrepreneurship, innovation and leadership. We believe that Dr. Afeyan's significant experience co-founding, leading and investing in numerous biotechnology companies make him qualified to serve on our board of directors.

Michael Rosenblatt, M.D. has served as a member of our board of directors since December 2014 and as Chief Medical Officer of Flagship Pioneering since September 2016. From December 2009 to June 2016, he served as the Executive Vice President and Chief Medical Officer of Merck & Co. Inc. Dr. Rosenblatt serves on the board of directors of Brooks Automation Inc. and has served on the boards of directors of Radius Health, Inc. and ProScrip. Dr. Rosenblatt received an M.D. from Harvard Medical School and an A.B. in chemistry from Columbia University. We believe that Dr. Rosenblatt's extensive medical and scientific knowledge and his experience in clinical development and executive management in the pharmaceutical industry qualify him to serve as a member of our board of directors.

Catherine A. Sohn, Pharm.D. has served as a member of our board of directors since January 2018. Since January 2011, Dr. Sohn has consulted for pharmaceutical, biotechnology, medical device and consumer healthcare companies in the areas of business strategy, business development and strategic product development at Sohn Health Strategies, LLC, which she founded and serves as President, and she is non-executive chair of BioEclipse Therapeutics, a privately held biotechnology company. Additionally, she is Adjunct Professor at University of California, San Francisco. Since July 2012, Dr. Sohn has served on the board of directors of Jazz Pharmaceuticals plc, an international public biopharmaceutical company, since November 2012, she has served on the board of directors of Landec Corporation, a public biomaterials and food company, and, since August 2019, she has served on the board of Axcella Health, a public biopharmaceutical company. Dr. Sohn served on the board of Neuralstem, Inc., a public biopharmaceutical company from January 2014 to May 2017. From 1982 to 2010, Dr. Sohn spent 28 years at GlaxoSmithKline plc and its predecessor companies, SmithKline Beecham and SK&F, serving as Senior Vice President from 2003 until 2010. Dr. Sohn received a Pharm.D. from the University of California, San Francisco and a certificate of professional development from the Wharton School at the University of Pennsylvania. She is a Governance Fellow of NACD and a Certified Licensing Professional. We believe that Dr. Sohn is qualified to serve on our board of directors because of her experience with product development, strategic marketing and business development transactions in the pharmaceutical industry.

Vote Required and Board of Directors' Recommendation

To be elected, the directors nominated via Proposal No. 1 must receive a plurality of the votes cast and entitled to vote on the proposal, meaning that the director nominees receiving the most votes will be elected. Shares voting "withheld" have no effect on the election of directors.

The proxies will be voted in favor of the above nominees unless a contrary specification is made in the proxy. The nominees have consented to serve as our directors if elected. However, if the nominees are unable to serve or for good cause will not serve as a director, the proxies will be voted for the election of such substitute nominee as our board of directors may designate.

The proposal for the election of directors relates solely to the election of class I directors nominated by our board of directors.

The board of directors recommends voting "FOR" the election of Noubar B. Afeyan, Michael Rosenblatt, and Catherine A. Sohn as the class II directors, to serve for a three-year term ending at the annual meeting of stockholders to be held in 2023.

Directors Continuing in Office

The following table identifies our continuing directors, and sets forth their principal occupation and business experience during the last five years and their ages as of March 24, 2020.

Name	Positions and Offices Held with Rubius	Director Since	Class and Year in Which Term Will Expire	Age
David R. Epstein	Director	2017	Class I—2022	58
Natalie Holles	Director	2019	Class I—2022	47
Anne Prener, M.D., Ph.D.	Director	2019	Class I—2022	62
Pablo J. Cagnoni, M.D.	Director, Chief Executive Officer, President	2018	Class III—2021	57
Francis Cuss, M.D., B. Chir., FRCP	Director	2018	Class III—2021	65
Sir Jonathan R. Symonds, CBE	Director	2018	Class III—2021	61

Class I Directors (Term Expires at 2022 Annual Meeting)

David R. Epstein has served as our Chairman and as a member of our board of directors since January 2017. Since January 2017, Mr. Epstein has also served as Executive Partner at Flagship Pioneering. Mr. Epstein also serves on the boards of directors of International Flavors and Fragrances, Inc., Evelo Biosciences, Inc. and Axcella Health Inc., as chairman. From January 2010 to July 2016, Mr. Epstein served as Chief Executive Officer of Novartis Pharmaceuticals Corporation, a pharmaceutical company and a division of Novartis AG. Mr. Epstein received an M.B.A. from Columbia Business School and a B.S. in pharmacy from Rutgers University. We believe that Mr. Epstein's extensive experience serving in executive roles in the life sciences industry and leading the development and commercialization of numerous therapeutics qualify him to serve on our board of directors.

Natalie Holles, has served as a member of our board of directors since March 2019. Since January 2020, Ms. Holles has served as Chief Executive Officer of Audentes Therapeutics, Inc. From May 2018 and until January 2020, Ms. Holles served as President and Chief Operating Officer of Audentes Therapeutics, Inc. and from August 2015 until May 2018, Ms. Holles served as Senior Vice President and Chief Operating Officer of Audentes Therapeutics, Inc. Previously, Ms. Holles served as Senior Vice President, Corporate Development at Hyperion Therapeutics, Inc., a rare disease pharmaceutical company, from June 2013 through its acquisition by Horizon Pharma, plc in May 2015. From August 2012 until June 2013, Ms. Holles served as the Executive Vice President, Corporate Development at Immune Design, Inc., an immunotherapy company, and from December 2010 to June 2013, Ms. Holles served as an independent life sciences corporate development consultant. Earlier in her career, Ms. Holles served as the Vice President, Business Development at KAI Pharmaceuticals, Inc. and previously held corporate development and commercial roles at InterMune, Inc. and Genentech, Inc. Ms. Holles holds an A.B. from Stanford University and an M.A. from the University of Colorado, Boulder. We believe that Ms. Holles' experience with pharmaceutical companies and her executive leadership, managerial and business experience qualify her to serve on our board of directors.

Anne Prener, M.D., Ph.D. has served as a member of our board of directors since December 2019. Dr. Prener most recently served as the chief executive officer of Freeline Therapeutics, Ltd., a liver-directed gene therapy company, from July 2017 to June 2019. Prior to joining Freeline Therapeutics, she served as the chief executive officer of Gyroscope Therapeutics Ltd., a gene therapy company focused on eye diseases from August 2016 to July 2017. Before that, Dr. Prener was vice president, clinical research hematology and global therapeutic area head of hematology at Baxalta from October

2014 to June 2016. From 1992 to December 2013, Dr. Prener held several positions of increasing responsibility at Novo Nordisk, most recently serving as senior vice president, hemophilia R&D portfolio where she was instrumental in building the hemophilia franchise to a portfolio of several late stage and commercial products. Dr. Prener holds a Ph.D. in epidemiology and an M.D., both from the University of Copenhagen. We believe that Dr. Prener's experience with pharmaceutical companies and her executive leadership, managerial and business experience qualify her to serve on our board of directors.

Class III Directors (Term Expires at 2021 Annual Meeting)

Pablo J. Cagnoni, M.D. has served as our chief executive officer and as a member of our board of directors since June 2018 and our president since February 2020. From April 2018 to June 2018, Dr. Cagnoni served as an advisor to our company. Dr. Cagnoni also serves on the board of directors for Fusion Pharmaceuticals, Inc., Tizona Therapeutics, Inc. and Repertoire Immune Medicines. He serves on the Board of Trustees for the Bay Area Discovery Museum and is a member of the Council on Foreign Relations. He previously served as a board member for CRISPR Therapeutics AG, Harpoon Therapeutics, Inc. and Tango Therapeutics, Inc. and was Executive Chairman of Blade Therapeutics, Inc. Before joining Rubius, Dr. Cagnoni served as President and Chief Executive Officer of Tizona Therapeutics, a privately held biotech company focused on developing next generation immunotherapies for the treatment of cancer. He joined Tizona as the company's first employee and grew the organization to support the filing of its first Investigational New Drug application. Prior to Tizona, he served as President of Onyx Pharmaceuticals, Inc. (acquired by Amgen), where he had global strategic oversight and accountability of the business from early product development to commercialization of the Onyx portfolio. Dr. Cagnoni joined Onyx in March 2013, as Executive Vice President, Global Research and Development and Technical Operations, and was named President in October 2013, when Onyx became an Amgen subsidiary. Previously, he was Senior Vice President and Global Head of Clinical Development at Novartis Oncology, where he was responsible for all clinical development, clinical operations, clinical pharmacology, and correlative sciences activities for the oncology development pipeline. From 2007 to 2009, Dr. Cagnoni was Senior Vice President and Chief Medical Officer at Allos Therapeutics, Inc. (acquired by Spectrum Pharmaceuticals) and, prior to that, Chief Medical Officer of OSI Pharmaceuticals, Inc. (acquired by Astellas). Earlier in his career, he served as Assistant Professor of Medicine, University of Colorado Bone Marrow Transplant Program, where he cared for patients undergoing stem cell transplants. Dr. Cagnoni earned his medical degree from the University Buenos Aires School of Medicine, and he completed his fellowship in Hematology and Oncology at the Mount Sinai Medical Center, New York and a fellowship in Stem Cell Transplantation at the University of Colorado Health Sciences Center. We believe that Dr. Cagnoni's perspective and experience serving as our Chief Executive Officer and extensive experience supporting the development of therapeutics qualify him to serve on our board of directors.

Francis Cuss, M.B., B.Chir., FRCP has served as a member of our board of directors since January 2018. Dr. Cuss is currently retired from full-time operational roles. Previously, he served as the Executive Vice President, Chief Scientific Officer and Head of Research and Development of Bristol Myers Squibb Co., a pharmaceutical company, from July 2013 to March 2017, and as the Senior Vice President and Head of Research of Bristol Myers Squibb from April 2010 to June 2013. Since September 2017, Dr. Cuss has served on the board of directors of Novo Holdings A/S and since July 2019, Dr. Cuss has served on the board of directors of Glympse Bio, Inc. Dr. Cuss also currently serves on the Advisory Committee of the Director of the National Institutes of Health. Dr. Cuss received a B.A./M.A. in natural sciences and an M.B., B.Chir. in medicine from Cambridge University. We believe that Dr. Cuss' broad experience in pharmaceutical research, clinical development and executive management within globally-operating biopharmaceutical companies make him qualified to serve on our board of directors.

Sir Jonathan R. Symonds, CBE has served as a member of our board of directors since March 2018. Since September 2019, he has been Chairman of GlaxoSmithKline plc. Between April 2014 and February 2020, he was a director of HSBC Holdings plc, a large international banking and financial institution, and was Deputy Group Chairman and senior independent director. Sir Jonathan R. Symonds served as the Chief Financial Officer of Novartis AG from September 2009 to January 2014. Since November 2014, he has served as the Chairman of Proteus Digital Health, Inc., a digital medicine company, and since October 2014, as a director of Genomics England plc, a government organization leading a genomics project, serving as chairman between January 2019 and November 2019. Sir Jonathan R. Symonds served as the Chief Financial Officer of AstraZeneca PLC from October 1997 to July 2007. Sir Jonathan R. Symonds received a B.A. in business finance and an honorary doctorate in law from the University of Hertfordshire. We believe that Sir Jonathan R. Symonds is qualified to serve on our board of directors because of his experience as a senior finance executive in large publicly held biopharmaceutical companies.

There are no family relationships between or among any of our directors or executive officers. The principal occupation and employment during the past five years of each of our directors was carried on, in each case except as specifically identified above, with a corporation or organization that is not a parent, subsidiary or other affiliate of us. There is no arrangement or understanding between any of our directors and any other person or persons pursuant to which he or she is to be selected as a director.

There are no material legal proceedings to which any of our directors is a party adverse to us or any of our subsidiaries or in which any such person has a material interest adverse to us or our subsidiary.

Executive Officers Who Are Not Directors

The following table identifies our executive officers, and sets forth their current positions at Rubius and their ages as of March 24, 2020. Biographical information for Dr. Cagnoni, our President and Chief Executive Officer, is set forth under the heading "Directors Continuing in Office" above.

<u>Name</u>	<u>Position Held with Rubius</u>	<u>Officer Since</u>	<u>Age</u>
Andrew M. Oh	Chief Financial Officer	2017	49
Christina M. Coughlin, M.D., Ph.D.	Chief Medical Officer	2020	50
Laurence Turka, M.D.	Chief Scientific Officer	2020	62
Maiken Keson-Brookes	Chief Legal Officer and Corporate Secretary	2019	47

Andrew M. Oh has served as our chief financial officer since December 2017. Prior to joining our company, Mr. Oh served as the Co-Founder, Director, Chief Investment Officer and Chief Operating Officer of Leerink Pharmaceutical Investments, a private asset management company focused on investing in public healthcare stocks, from January 2014 to December 2017. From May 2006 to March 2013, Mr. Oh served as the Senior Global Pharmaceutical Analyst at Fidelity Investments and as the Portfolio Manager overseeing the Fidelity Select Pharmaceuticals Portfolio fund. Mr. Oh received an M.B.A. from Northwestern University's Kellogg School of Management and a B.A. in Biology from Washington University in St. Louis.

Christina Coughlin, M.D., Ph.D. has served as our chief medical officer since January 2020. Prior to joining our company, Dr. Coughlin served as chief medical officer of Tmunity Therapeutics, Inc., a clinical stage immunotherapy company, from July 2018 to November 2019. Prior to Tmunity, Dr. Coughlin served as chief medical officer at Immunocore Ltd. from April 2015 to July 2018. Earlier, she held positions at several pharmaceutical companies, including executive director of oncology clinical development at Novartis from December 2012 to April 2015. She holds an M.D. and Ph.D. from the

University of Pennsylvania School of Medicine and a B.S. in mathematics and biology from Temple University.

Laurence Turka, M.D. has served as our chief scientific officer since January 2020. Prior to joining our company, Dr. Turka co-founded and served as chief scientific officer of Rheos Medicines from March 2018 to January 2020, a pre-clinical biotechnology company focused on novel therapies targeting the metabolism of immune cells. Prior to Rheos, he was an Entrepreneur-in-Residence at Third Rock Ventures from May 2016 to February 2018. Before joining venture capital, Dr. Turka spent 30 years working in academia, most recently serving as the Harold and Ellen Danser Professor of Surgery, an appointment that he maintained through February 2018, and Professor of Medicine at Harvard Medical School and Massachusetts General Hospital. Since March 2018, Dr. Turka has been the Harold and Ellen Danser Professor of Surgery, Emeritus. Dr. Turka received his M.D. from the Yale University School of Medicine, trained in internal medicine at Yale-New Haven Hospital and in nephrology at the Brigham and Women's Hospital/Harvard Medical School.

Maiken Keson-Brookes has served as our chief legal officer and corporate secretary since November 2019. Prior to joining our company, Ms. Keson-Brookes served as general counsel of Synlogic, Inc. from December 2017 to November 2019. Prior to Synlogic, Ms. Keson-Brookes served as general counsel of uniQure Inc. from December 2016 to July 2017. Prior to uniQure, Ms. Keson-Brookes served as general counsel of Forum Pharmaceuticals, Inc. from March 2011 to June 2016. She holds bachelor of laws and master of laws degrees from King's College London.

The principal occupation and employment during the past five years of each of our executive officers was carried on, in each case except as specifically identified above, with a corporation or organization that is not a parent, subsidiary or other affiliate of us. There is no arrangement or understanding between any of our executive officers and any other person or persons pursuant to which he was or is to be selected as an executive officer.

There are no material legal proceedings to which any of our executive officers is a party adverse to us or our subsidiary or in which any such person has a material interest adverse to us or our subsidiary.

**PROPOSAL NO. 2—RATIFICATION OF THE APPOINTMENT OF
PRICEWATERHOUSECOOPERS LLP AS RUBIUS' INDEPENDENT REGISTERED PUBLIC
ACCOUNTING FIRM FOR THE FISCAL YEAR ENDING DECEMBER 31, 2020**

Rubius' stockholders are being asked to ratify the appointment by the audit committee of the board of directors of PricewaterhouseCoopers LLP as Rubius' independent registered public accounting firm for the fiscal year ending December 31, 2020. PricewaterhouseCoopers LLP has served as Rubius' independent registered public accounting firm since 2016.

The audit committee is solely responsible for selecting Rubius' independent registered public accounting firm for the fiscal year ending December 31, 2020. Stockholder approval is not required to appoint PricewaterhouseCoopers LLP as Rubius' independent registered public accounting firm. However, the board of directors believes that submitting the appointment of PricewaterhouseCoopers LLP to the stockholders for ratification is good corporate governance. If the stockholders do not ratify this appointment, the audit committee will reconsider whether to retain PricewaterhouseCoopers LLP. If the selection of PricewaterhouseCoopers LLP is ratified, the audit committee, at its discretion, may direct the appointment of a different independent registered public accounting firm at any time it decides that such a change would be in the best interest of Rubius and its stockholders.

A representative of PricewaterhouseCoopers LLP is expected to be present at the Annual Meeting and will have an opportunity to make a statement if he or she desires to do so and to respond to appropriate questions from our stockholders.

Rubius incurred the following fees from PricewaterhouseCoopers LLP for the audit of the consolidated financial statements and for other services provided during the years ended December 31, 2019 and 2018.

	<u>2019</u>	<u>2018</u>
Audit fees(1)	\$ 668,284	\$ 1,598,682
Audit-related fees	—	—
Tax fees	—	—
All other fees(2)	2,700	956
Total fees	<u>\$ 670,984</u>	<u>\$ 1,599,638</u>

- (1) Audit fees consist of fees for the audit of our annual financial statements, the review of our interim financial statements included in our quarterly reports on Form 10-Q, and services provided in connection with our registration statement on Form S-3, which was filed in August 2019.
- (2) Consists of license fees for accounting research software.

Audit Committee Pre-approval Policy and Procedures

Our audit committee has adopted policies and procedures relating to the approval of all audit and non-audit services that are to be performed by our independent registered public accounting firm. This policy provides that we will not engage our independent registered public accounting firm to render audit or non-audit services unless the service is specifically approved in advance by our audit committee or the engagement is entered into pursuant to the pre-approval procedure described below.

From time to time, our audit committee may pre-approve specified types of services that are expected to be provided to us by our independent registered public accounting firm during the next

12 months. Any such pre-approval details the particular service or type of services to be provided and is also generally subject to a maximum dollar amount.

During our 2019 and 2018 fiscal years, no services were provided to us by PricewaterhouseCoopers LLP other than in accordance with the pre-approval policies and procedures described above.

Vote Required and Board of Directors' Recommendation

The approval of Proposal No. 2 requires that a majority of the votes properly cast vote FOR this proposal. Shares that are voted "abstain" will not affect the outcome of this proposal.

The board of directors recommends voting "FOR" Proposal No. 2 to ratify the appointment of PricewaterhouseCoopers LLP as Rubius' independent registered public accounting firm for the fiscal year ending December 31, 2020.

CORPORATE GOVERNANCE

Director Nomination Process

Our nominating and corporate governance committee is responsible for identifying individuals qualified to serve as directors, consistent with criteria approved by our board, and recommending such persons to be nominated for election as directors, except where we are legally required by contract, law or otherwise to provide third parties with the right to nominate.

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, meetings from time to time to evaluate biographical information and background material relating to potential candidates, and interviews of selected candidates by management, recruiters, members of the committee and our board. The qualifications, qualities and skills that our nominating and corporate governance committee believes must be met by a committee-recommended nominee for a position on our board of directors are as follows:

- Nominees should have experience at a strategic or policymaking level in a business, government, non-profit or academic organization of high standing.
- Nominees should be highly accomplished in his or her respective field, with superior credentials and recognition.
- Nominees should be well regarded in the community and shall have a long-term reputation for high ethical and moral standards.
- Nominees should have sufficient time and availability to devote to the affairs of the company, particularly in light of the number of boards of directors on which such nominee may serve.
- To the extent such nominee serves or has previously served on other boards, the nominee shall have a demonstrated history of actively contributing at board meetings.

Stockholders may recommend individuals to the nominating and corporate governance committee for consideration as potential director candidates. Any such proposals should be submitted to our corporate secretary at our principal executive offices no later than the close of business on the 90th day nor earlier than the close of business on the 120th day prior to the one-year anniversary of the date of the preceding year's annual meeting and should include appropriate biographical and background material to allow the nominating and corporate governance committee to properly evaluate the potential director candidate and the number of shares of our stock beneficially owned by the stockholder proposing the candidate. Stockholder proposals should be addressed to Rubius Therapeutics, Inc., 399 Binney Street, Suite 300, Cambridge, Massachusetts 02139, Attention: Corporate Secretary. Assuming that biographical and background material has been provided on a timely basis in accordance with our bylaws, any recommendations received from stockholders will be evaluated in the same manner as potential nominees proposed by the nominating and corporate governance committee. If our board of directors determines to nominate a stockholder-recommended candidate and recommends his or her election, then his or her name will be included on our proxy card for the next annual meeting of stockholders. See "Stockholder Proposals" for a discussion of submitting stockholder proposals.

Director Independence

Applicable Nasdaq Stock Market LLC, or Nasdaq, rules require a majority of a listed company's board of directors to be comprised of independent directors within one year of listing. In addition, the Nasdaq rules require that, subject to specified exceptions, each member of a listed company's audit, compensation and nominating and corporate governance committees be independent and that audit committee members also satisfy independence criteria set forth in Rule 10A-3 under the Exchange Act

and that compensation committee members satisfy independence criteria set forth in Rule 10C-1 under the Exchange Act. Under applicable Nasdaq rules, a director will only qualify as an "independent director" if, in the opinion of the listed company's board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. In order to be considered independent for purposes of Rule 10A-3, a member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, the board of directors, or any other board committee, accept, directly or indirectly, any consulting, advisory, or other compensatory fee from the listed company or any of its subsidiaries or otherwise be an affiliated person of the listed company or any of its subsidiaries. In addition, in affirmatively determining the independence of any director who will serve on a company's compensation committee, Rule 10C-1 under the Exchange Act requires that a company's board of directors must consider all factors specifically relevant to determining whether a director has a relationship to such company which is material to that director's ability to be independent from management in connection with the duties of a compensation committee member, including: the source of compensation to the director, including any consulting, advisory or other compensatory fee paid by such company to the director, and whether the director is affiliated with the company or any of its subsidiaries or affiliates.

Our board of directors has determined that all members of the board of directors, except Dr. Cagnoni and Mr. Epstein, are independent directors, including for purposes of the rules of Nasdaq and the SEC. In making such independence determination, our board of directors considered the relationships that each non-employee director has with us and all other facts and circumstances that our board of directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director. In considering the independence of the directors listed above, our board of directors considered the association of our directors with the holders of more than 5% of our common stock. There are no family relationships among any of our directors or executive officers. Dr. Cagnoni and Mr. Epstein are not independent directors under these rules because they each are or have been within the last three years, executive officers of the Company.

Board Committees

Our board of directors has established an audit committee, a compensation committee, and a nominating and corporate governance committee. Each of the audit committee, compensation committee, and nominating and corporate governance committee operates under a charter that satisfies the applicable standards of the SEC and Nasdaq. Each such committee reviews its respective charter at least annually. A current copy of the charter for each of the audit committee, compensation committee, and nominating and corporate governance committee is posted on the corporate governance section of our website, <https://ir.rubiustx.com/corporate-governance/documents-and-charters>.

Audit Committee

Natalie Holles, Catherine A. Sohn, and Sir Jonathan R. Symonds serve on the audit committee, which is chaired by Sir Jonathan R. Symonds. Our board of directors has determined that each member of the audit committee is "independent" for audit committee purposes as that term is defined in the rules of the SEC and the applicable Nasdaq rules, and each has sufficient knowledge in financial and auditing matters to serve on the audit committee. Our board of directors has designated Sir Jonathan R. Symonds as an "audit committee financial expert," as defined under the applicable rules of the SEC. During the fiscal year ended December 31, 2019, the audit committee met six times. The report of the audit committee is included in this proxy statement under "Report of the Audit Committee." The audit committee's responsibilities include:

- appointing, approving the compensation of, and assessing the independence of our independent registered public accounting firm;

- pre-approving auditing and permissible non-audit services, and the terms of such services, to be provided by our independent registered public accounting firm;
- reviewing the overall audit plan with our independent registered public accounting firm and members of management responsible for preparing our financial statements;
- reviewing and discussing with management and our independent registered public accounting firm our annual and quarterly financial statements and related disclosures as well as critical accounting policies and practices used by us;
- coordinating the oversight and reviewing the adequacy of our internal control over financial reporting;
- establishing policies and procedures for the receipt and retention of accounting-related complaints and concerns;
- recommending based upon the audit committee's review and discussions with management and our independent registered public accounting firm whether our audited financial statements shall be included in our Annual Report on Form 10-K;
- monitoring the integrity of our financial statements and our compliance with legal and regulatory requirements as they relate to our financial statements and accounting matters;
- preparing the audit committee report required by SEC rules to be included in our annual proxy statement;
- reviewing all related person transactions for potential conflict of interest situations and approving all such transactions; and
- reviewing quarterly earnings releases.

All audit and non-audit services, other than *de minimis* non-audit services, to be provided to us by our independent registered public accounting firm must be approved in advance by our audit committee.

Compensation Committee

Noubar B. Afeyan, Francis Cuss, and Catherine A. Sohn serve on the compensation committee, which is chaired by Dr. Afeyan. Our board of directors has determined that each member of the compensation committee is "independent" as defined in the applicable Nasdaq rules. During the fiscal year ended December 31, 2019, the compensation committee met six times. The compensation committee's responsibilities include:

- annually reviewing and recommending to the board of directors corporate goals and objectives relevant to the compensation of our chief executive officer;
- evaluating the performance of our chief executive officer in light of such corporate goals and objectives and recommending to the board of directors the compensation of our chief executive officer;
- reviewing and approving the compensation of our other executive officers and direct reports to the chief executive officer;
- reviewing and recommending to the board of directors the compensation of members of our board of directors, including our chairman;
- reviewing and establishing our overall management compensation, philosophy, and policy;
- overseeing and administering our compensation and similar plans;

- evaluating and assessing potential and current compensation advisors in accordance with the independence standards identified in the applicable Nasdaq rules;
- retaining and approving the compensation of any compensation advisors;
- reviewing and making recommendations to our board of directors about our policies and procedures for the grant of equity-based awards;
- evaluating and making recommendations to the board of directors about director compensation;
- preparing the compensation committee report required by SEC rules, if and when required, to be included in our annual proxy statement;
- reviewing and approving the retention or termination of any consulting firm or outside advisor to assist in the evaluation of compensation matters; and
- reviewing and discussing with the board of directors corporate succession plans for our chief executive officer and our other key officers.

Nominating and Corporate Governance Committee

Natalie Holles, Anne Prener, and Michael Rosenblatt serve on the nominating and corporate governance committee, which is chaired by Dr. Rosenblatt. Our board of directors has determined that each member of the nominating and corporate governance committee is "independent" as defined in the applicable Nasdaq rules. During the fiscal year ended December 31, 2019, the nominating and corporate governance committee met three times. The nominating and corporate governance committee's responsibilities include:

- developing and recommending to the board of directors criteria for board and committee membership;
- establishing procedures for identifying and evaluating board of director candidates, including nominees recommended by stockholders;
- reviewing the size and composition of the board of directors to ensure that it is composed of members containing the appropriate skills and expertise to advise us;
- identifying individuals qualified to become members of the board of directors;
- recommending to the board of directors the persons to be nominated for election as directors and to each of the board's committees;
- developing and recommending to the board of directors a code of business conduct and ethics and a set of corporate governance guidelines; and
- overseeing the evaluation of our board of directors and management.

The board of directors has delegated to the nominating and corporate governance committee the responsibility of identifying prospective candidates for board of director membership and recommending such candidates to the board of directors. Additionally, in selecting nominees for directors, the nominating and corporate governance committee will review candidates recommended by stockholders in the same manner and using the same general criteria as candidates recruited by the committee and/or recommended by our board of directors. Any stockholder who wishes to recommend a candidate for consideration by the committee as a nominee for director should follow the procedures described later in this proxy statement under the heading "Stockholder Proposals." The nominating and corporate governance committee will also consider whether to nominate any person proposed by a stockholder in accordance with the provisions of our bylaws relating to stockholder nominations as described later in this proxy statement under the heading "Stockholder Proposals."

Identifying and Evaluating Director Nominees. Our board of directors is responsible for filling vacancies on our board of directors and for nominating candidates for election by our stockholders each year in the class of directors whose term expires at the relevant annual meeting. The board of directors delegates the selection and nomination process to the nominating and corporate governance committee, with the expectation that other members of the board of directors, and of management, will be requested to take part in the process as appropriate.

Generally, the nominating and corporate governance committee identifies candidates for director nominees in consultation with management, through the use of search firms or other advisors, through the recommendations submitted by stockholders or through such other methods as the nominating and corporate governance committee deems to be helpful to identify candidates. Once candidates have been identified, the nominating and corporate governance committee confirms that the candidates meet all of the minimum qualifications for director nominees established by the nominating and corporate governance committee. The nominating and corporate governance committee may gather information about the candidates through interviews, detailed questionnaires, comprehensive background checks or any other means that the nominating and corporate governance committee deems to be appropriate in the evaluation process. The nominating and corporate governance committee then meets as a group to discuss and evaluate the qualities and skills of each candidate, both on an individual basis and taking into account the overall composition and needs of our board of directors. Based on the results of the evaluation process, the nominating and corporate governance committee recommends candidates for the board of directors' approval to fill a vacancy or as director nominees for election to the board of directors by our stockholders each year in the class of directors whose term expires at the relevant annual meeting.

Minimum Qualifications. Our nominating and corporate governance committee and our board of directors may consider a broad range of factors relating to the qualifications and background of nominees. Our nominating and corporate governance committee's and our board of directors' priority in selecting board members is the identification of persons who will further the interests of our stockholders through their established record of professional accomplishment, the ability to contribute positively to the collaborative culture among board members, knowledge of our business, understanding of the competitive landscape, and professional and personal experiences and expertise relevant to our growth strategy. We have no formal policy regarding board diversity.

Science and Technology Committee

Francis Cuss, Anne Prener, Noubar B. Afeyan, David R. Epstein, and Michael Rosenblatt currently serve on the science and technology committee, which is chaired by Dr. Cuss. During the fiscal year ended December 31, 2019, the science and technology committee met three times. The science and technology committee's responsibilities include periodically reviewing and advising the Board on the Company's strategic direction and investment in research and development and technology both internally and externally. The science and technology committee is also responsible for identifying and discussing significant emerging trends and issues in science and technology and considering the potential impact of such on the Company.

Board and Committee Meetings Attendance

The full board of directors met seven times during 2019. During 2019, each member of the board of directors attended in person or participated in 75% or more of the aggregate of (i) the total number of meetings of the board of directors (held during the period for which such person has been a director) and (ii) the total number of meetings held by all committees of the board of directors on which such person served (during the periods that such person served), other than Robert Langer.

Director Attendance at Annual Meeting of Stockholders

Directors are responsible for attending the annual meeting of stockholders to the extent practicable. In 2019, two directors attended the annual meeting.

Policy on Trading, Pledging and Hedging of Company Stock

Certain transactions in our securities (such as purchases and sales of publicly traded put and call options, and short sales) create a heightened compliance risk or could create the appearance of misalignment between management and stockholders. In addition, securities held in a margin account or pledged as collateral may be sold without consent if the owner fails to meet a margin call or defaults on the loan, thus creating the risk that a sale may occur at a time when an officer or director is aware of material, non-public information or otherwise is not permitted to trade in Company securities. Our insider trading policy expressly prohibits short sales, purchases or sales of puts or calls, and other derivative transactions of our stock, including any transaction that provides the economic equivalent of ownership, by our executive officers, directors, employees and certain designated consultants and contractors.

Code of Business Conduct and Ethics

We have adopted a written code of business conduct and ethics that applies to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. A current copy of the code is posted on the corporate governance section of our website, which is located at <https://ir.rubiustx.com/corporate-governance/documents-and-charters>. If we make any substantive amendments to, or grant any waivers from, the code of business conduct and ethics for any officer or director, we will disclose the nature of such amendment or waiver on our website or in a current report on Form 8-K.

Board Leadership Structure and Board's Role in Risk Oversight

Currently, the role of chairman of the board is separated from the role of chief executive officer. We believe that separating these positions allows our chief executive officer to focus on our day-to-day business, while allowing the chairman of the board to lead the board of directors in its fundamental role of providing advice to, and independent oversight, of management. Our board of directors 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 chairman, particularly as the board of directors' oversight responsibilities continue to grow. While our bylaws and our corporate governance guidelines do not require that our chairman and chief executive officer positions be separate, our board of directors believes that having separate positions is the appropriate leadership structure for us at this time and demonstrates our commitment to good corporate governance.

Risk is inherent to every business, and how well a business manages risk can ultimately determine its success. We face a number of risks, including risks relating to our financial condition, development and commercialization activities, operations, strategic direction, and intellectual property. Management is responsible for the day-to-day management of risks we face, while our board of directors, as a whole and through its committees, has responsibility for the oversight of risk management. In its risk oversight role, our board of directors has the responsibility to satisfy itself that the risk management processes designed and implemented by management are adequate and functioning as designed.

The role of the board of directors in overseeing the management of our risks is conducted primarily through committees of the board of directors, as disclosed in the descriptions of each of the committees above and in the charters of each of the committees. The full board of directors (or the appropriate board committee in the case of risks that are under the purview of a particular committee)

discusses with management our major risk exposures, their potential impact on us, and the steps we take to manage them. When a board committee is responsible for evaluating and overseeing the management of a particular risk or risks, the chairman of the relevant committee reports on the discussion to the full board of directors during the committee reports portion of the next board meeting. This enables the board of directors and its committees to coordinate the risk oversight role, particularly with respect to risk interrelationships.

Communication with the Directors of Rubius

Any interested party with concerns about our company may report such concerns to the board of directors or the chairman of our board of directors and nominating and corporate governance committee, by submitting a written communication to the attention of such director at the following address:

c/o Rubius Therapeutics, Inc.
399 Binney Street, Suite 300
Cambridge, Massachusetts 02139
United States

You may submit your concern anonymously or confidentially by postal mail. You may also indicate whether you are a stockholder, customer, supplier, or other interested party.

A copy of any such written communication may also be forwarded to Rubius' legal counsel and a copy of such communication may be retained for a reasonable period of time. The director may discuss the matter with Rubius' legal counsel, with independent advisors, with non-management directors, or with Rubius' management, or may take other action or no action as the director determines in good faith, using reasonable judgment, and applying his or her own discretion.

Communications may be forwarded to other directors if they relate to important substantive matters and include suggestions or comments that may be important for other 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 or duplicative communications.

The audit committee oversees the procedures for the receipt, retention, and treatment of complaints received by Rubius regarding accounting, internal accounting controls, or audit matters, and the confidential, anonymous submission by employees of concerns regarding questionable accounting, internal accounting controls or auditing matters. Rubius has also established a toll-free telephone number for the reporting of such activity, which is 877-859-9462.

DIRECTOR COMPENSATION

The table below shows all compensation paid to each individual who served as a non-employee member of our board of directors during 2019 for their services as directors in 2019. Dr. Cagnoni, our Chief Executive Officer, receives no compensation for his service as a director, and, consequently, is not included in this table. The compensation received by Dr. Cagnoni as an employee during 2019 is presented in the "Summary Compensation Table" later in this proxy statement.

Name	Fees Earned or Paid In Cash (\$)(1)	Option Awards (\$)(2)(3)(4)(5)(6)(7)	All Other Compensation (\$)(8)	Total (\$)
Noubar B. Afeyan, Ph.D.	45,000	266,285	—	311,285
Francis Cuss, M.B., B.Chir., FRCP	48,000	266,285	—	314,285
David R. Epstein	495,000	404,940	—	899,940
Nathalie Holles	36,196	605,730	—	641,926
Robert S. Langer, Sc.D.(9)	33,654	770,831	46,250	850,735
Roger Pomerantz, M.D.(9)	17,338	58,240	—	75,578
Anne Prener, M.D., Ph.D.	1,346	315,490	—	316,836
Michael Rosenblatt, M.D.	43,000	266,285	—	309,285
Catherine A. Sohn, Pharm.D.	47,500	266,285	—	313,785
Sir Jonathan R. Symonds, CBE	50,000	266,285	—	316,285

- (1) Amounts represent cash compensation for services rendered by each member of the board of directors.
- (2) In 2019, Drs. Afeyan, Cuss, Langer, Rosenblatt, Sohn and Sir Jonathan R. Symonds were each granted an option to purchase 25,000 shares of common stock on May 23, 2020, the date of the 2019 annual meeting of the stockholders.
- (3) In 2019, Mr. Epstein was granted an option to purchase 39,094 shares of common stock on May 22, 2019, the date of the 2019 annual meeting of the stockholders, in accordance with the terms of the Second Amended and Restated Chairman Agreement between Mr. Epstein and us, dated June 21, 2018.
- (4) In 2019, Ms. Holles and Ms. Prener were each granted an option to purchase 50,000 shares of common stock upon their initial election to the board of directors in March and December 2019, respectively.
- (5) Except as noted in footnote 6, amounts shown reflect the grant date fair value of option awards granted during 2019. The grant date fair value was computed in accordance with Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Topic 718, *Compensation—Stock Compensation*, disregarding the effect of estimated forfeitures related to service-based vesting. See Note 10 to the financial statements in our Annual Report on Form 10-K for the year ended December 31, 2019 regarding assumptions we used in determining the fair value of option awards.
- (6) In 2019, the terms of the outstanding stock options held by Dr. Langer and Dr. Pomerantz were modified, and the amounts reported for Dr. Langer and Dr. Pomerantz include \$504,546 and \$58,240, respectively, in incremental fair value attributable to such modification. The grant date fair value of the option award granted to Dr. Langer in 2019, computed in accordance with FASB ASC Topic 718, was \$266,285. Dr. Pomerantz did not receive any equity awards in 2019.

- (7) Non-employee directors who served on the board of directors during 2019 held the following unexercised stock options as of December 31, 2019:

<u>Director</u>	<u>Number of shares Underlying Stock Options</u>
Noubar B. Afeyan, Ph.D.	50,000
Francis Cuss, M.B., B.Chir., FRCP	180,000
David R. Epstein	2,157,363
Nathalie Holles	50,000
Robert S. Langer, Sc.D.	320,000
Roger Pomerantz, M.D.	175,000
Anne Prener, M.D., Ph.D.	50,000
Michael Rosenblatt, M.D.	200,000
Catherine A. Sohn, Pharm.D.	180,000
Sir Jonathan R. Symonds, CBE	220,000

- (8) Amount represents consulting fees paid to Dr. Langer for his consulting services on our Scientific Advisory Board. Pursuant to Dr. Langer's consulting agreement, through December 18, 2019, he received consulting fees of \$12,500 per quarter for his services on our Scientific Advisory Board. The consulting agreement was amended effective December 18, 2019 to reduce the quarterly consulting fee to \$8,750 and to allow for the continued vesting during the period he continues to provide consulting services to the Company following his resignation from the board of directors pursuant to the consulting agreement of 39,584 shares subject to stock options issued to him as a director and the continued exercisability of 10,416 shares subject to options issued to him as a director until the earlier of the termination of his consulting agreement or the original expiration date of the options.
- (9) Dr. Pomerantz and Dr. Langer resigned from their roles as directors on March 19, 2018 and December 12, 2019, respectively.

Non-Employee Director Compensation

Under our director compensation program, effective as of the date on which the registration statement covering the initial public offering of our common stock was declared effective, we pay each of our non-employee directors other than our chairman a cash retainer for service on the board of directors and for service on each committee on which the director is a member. The chairman of each committee receives a higher retainer for such service. These fees are payable in arrears in four equal quarterly installments on the last day of each quarter, provided that the amount of such payment is prorated for any portion of such quarter that the director is not serving on our board of directors. The fees paid to non-employee directors in 2019, other than our chairman, for service on the board of

directors and for service on each committee of the board of directors on which the director is a member are as follows:

	Annual Retainer
Board of Directors:	
All non-employee members, except chairman	\$ 35,000
Audit Committee:	
Members	\$ 7,500
Chairman	\$ 15,000
Compensation Committee:	
Members	\$ 5,000
Chairman	\$ 10,000
Nominating and Corporate Governance Committee:	
Members	\$ 4,000
Chairman	\$ 8,000
Science and Technology Committee:	
Members	\$ —
Chairman	\$ 8,000

We also reimburse our non-employee directors for reasonable travel and out-of-pocket expenses incurred in connection with attending our board of directors and committee meetings.

In addition, each new non-employee director elected to our board of directors is granted an initial, one-time equity award of an option to purchase 50,000 shares of our common stock, which vests in equal quarterly installments during the 12 quarters following the grant date, subject to continued service as a director through such vesting date. On the date of each annual meeting of stockholders of our company, each non-employee director receives an annual equity award of an option to purchase 25,000 shares of common stock, which vests on the earlier of the one-year anniversary of the grant date and the Company's next annual meeting of stockholders, subject to continued service as a director through such vesting date.

Our Compensation Committee reviews our non-employee director compensation program on an annual basis and recommends changes, based on publicly available information and information and advice provided by an independent compensation consultant, that it deems necessary to attract and retain highly-skilled directors to our Board of Directors for review and approval. This program is intended to provide a total compensation package that enables us to attract and retain qualified and experienced individuals to serve as directors and to align our directors' interests with those of our stockholders.

Chairman Compensation

On June 21, 2018, we entered into a second amended and restated chairman agreement with David R. Epstein, or the Chairman Agreement, which sets forth the terms of his consulting arrangement with us. Pursuant to the terms of the Chairman Agreement, Mr. Epstein serves as chairman of our board of directors and has agreed to dedicate approximately 50 working days per year to us. As compensation for Mr. Epstein's services, we pay the limited liability company of which Mr. Epstein is the managing member a base retainer of \$495,000 per year and Mr. Epstein is granted a stock option each year with a grant date fair value of approximately \$405,000, which options are fully vested upon grant. In addition, upon the date that the registration statement for our initial public offering became effective, Mr. Epstein was granted an option to purchase a number of shares of our common stock equal to approximately 2% of our equity on a fully diluted basis, or the Initial Option. The Initial Option will vest in full on the third anniversary of the date of grant, subject to Mr. Epstein's

continued service through such date; provided, however, in the event that Mr. Epstein's service is terminated (i) by us for any reason other than Cause (as defined in the Chairman Agreement) or (ii) due to Mr. Epstein's death or disability, in each case prior to the third anniversary of the grant date of the Initial Option, a pro-rated portion of the shares underlying the Initial Option will vest and become exercisable, with such pro-ration based upon the number of days elapsed between the grant date of the Initial Option and the date of termination of Mr. Epstein's service. The Chairman Agreement contains non-competition provisions that apply during the term of Mr. Epstein's service and for one year thereafter.

Securities Authorized for Issuance under Equity Compensation Plans

The following table sets forth information as of December 31, 2019 regarding shares of common stock that may be issued under our equity compensation plans, consisting of the Rubius Therapeutics, Inc. Amended and Restated 2014 Stock Incentive Plan, or the 2014 Plan, the Rubius Therapeutics, Inc. 2018 Stock Option and Incentive Plan, or the 2018 Plan, and the Rubius Therapeutics, Inc. 2018 Employee Stock Purchase Plan, or the 2018 Employee Stock Purchase Plan.

<u>Plan Category</u>	<u>Number of securities to be issued upon exercise of outstanding options, warrants and rights (#)</u>	<u>Weighted-average exercise price of outstanding options, warrants and rights (\$)</u>	<u>Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in first column)</u>
Equity compensation plans approved by security holders(1)	15,461,707(2)	\$ 10.55	5,355,569(3)
Equity compensation plans not approved by security holders	—	—	—
Total	15,461,707	\$ 10.55	5,355,569

- (1) The 2018 Plan provides that an additional number of shares will automatically be added to the shares authorized for issuance under the 2018 Plan on January 1 of each year. The number of shares added each year will be equal to the lesser of: (i) 4% of the outstanding shares on the immediately preceding December 31 or (ii) such amount as determined by the compensation committee of our board of directors. Additionally, the 2018 Employee Stock Purchase Plan provides that an additional number of shares will automatically be added to the shares authorized for issuance under the 2018 Employee Stock Purchase Plan on January 1 of each year, starting on January 1, 2019 through January 1, 2028. The number of shares added each year will be equal to the least of: (i) 1% of the outstanding shares on the immediately preceding December 31, (ii) 951,488 shares of common stock, or (iii) such amount as determined by the compensation committee of our board of directors.
- (2) Represents 15,461,707 shares of common stock issuable upon the exercise of outstanding stock options.
- (3) As of December 31, 2019, there were 1,743,836 shares available for grant under the 2018 Plan and 951,488 shares available for grants under the 2018 Employee Stock Purchase Plan. As of the closing of our initial public offering, no additional equity awards may be granted under the 2014 Plan.

EXECUTIVE COMPENSATION

Our named executive officers for the year ended December 31, 2019 include our principal executive officer, our former president, our chief financial officer and our chief legal officer:

- Pablo J. Cagnoni, M.D., our chief executive officer;
- Torben Straight Nissen, Ph.D., our president until July 24, 2019;
- Andrew M. Oh, our chief financial officer; and
- Maiken Keson-Brookes, our chief legal officer

Summary Compensation Table

The following table presents the compensation awarded to, earned by or paid to each of our named executive officers for the years indicated.

	Year	Salary (\$)	Bonus (\$)(3)	Option awards (\$)(4)	All other compensation (\$)	Total (\$)
Pablo J. Cagnoni, M.D. <i>Chief Executive Officer</i>	2019	547,500	211,750	935,250	26,630(5)	1,721,130
	2018	284,583	527,959	26,227,971	20,928	27,061,441
Torben Straight Nissen, Ph.D.(1) <i>Former President</i>	2019	236,308	—	3,029,354	7,572(5)	3,273,234
	2018	393,750	336,000	1,823,211	8,360	2,561,321
Andrew M. Oh <i>Chief Financial Officer</i>	2019	377,500	125,780	1,075,538	4,530(5)	1,583,348
	2018	360,000	172,800	5,330,892	2,030	5,865,722
Maiken Keson-Brookes(2) <i>Chief Legal Officer</i>	2019	50,000	140,000	1,299,875	170(6)	1,490,045

- (1) Dr. Straight Nissen resigned his position in July 2019.
- (2) Ms. Keson-Brookes commenced employment with us in November 2019. Her annual base salary for 2019 was \$400,000.
- (3) The amounts reported represent bonuses based upon the board of directors' assessment of the achievement of company and individual performance objectives for the year ended December 31, 2018, which were paid in February 2019, and for the year ended December 31, 2019, which were paid in February 2020. The 2019 amounts reflect the discretionary bonus paid in 2020 for performance during 2019, as discussed under "Narrative to Summary Compensation Table—Annual Bonus." For Dr. Cagnoni, the amount reported for 2018 also includes a \$345,000 sign-on bonus, which was paid pursuant to the terms of his employment agreement with us. For Dr. Straight Nissen, the amount reported for 2018 also includes a one-time special cash retention bonus of \$120,000 earned in November 2018 pursuant to the terms of his employment agreement with us, which amount was paid in February 2019. For Ms. Keson-Brookes, the amount reported in 2019 represents a \$140,000 sign-on bonus, which was paid pursuant to the terms of her employment agreement with us.
- (4) The amounts reported represent the aggregate grant-date fair value of stock options awarded in 2018 and 2019, calculated in accordance with FASB ASC Topic 718. The assumptions used in calculating the grant-date fair value are set forth in Note 10 to our audited consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2019. Note that the amounts reported in this column reflect the accounting cost for these stock options and do not correspond to the actual economic value that may be received by the named executive officer upon exercise of the options. Unlike the calculations contained in our financial statements, this calculation does not give effect to any estimate of forfeitures related to service-based vesting, but

assumes that the executive will perform the requisite service for the award to vest in full. For Dr. Straight Nissen, the amount reported for 2019 also includes \$1,392,667 in incremental fair value resulting from a modification of the terms of certain stock options then held by Dr. Straight Nissen.

- (5) The amount reported represents company-paid commuting expenses, long-term disability insurance premiums and group term life insurance premiums in excess of statutory limits and the company's match on contributions made to our 401(k) plan.
- (6) The amount reported represents company-paid commuting expenses.

Narrative to Summary Compensation Table

Our board of directors and compensation committee review compensation annually for all employees, including our executives. In setting executive base salaries and bonuses and granting equity incentive awards, the compensation committee and the board consider compensation for comparable positions in the market, the historical compensation levels of our executives, individual performance as compared to our expectations and objectives, our desire to motivate our employees to achieve short- and long-term results that are in the best interests of our stockholders, and a long-term commitment to our company. We target a general competitive position, based on independent third-party benchmark analytics to inform the mix of compensation of base salary, bonus or long-term incentives.

Our compensation committee is primarily responsible for determining the compensation for our executive officers. Our compensation committee typically reviews and discusses management's proposed compensation with our chief executive officer for all executives other than the chief executive officer. Based on those discussions and its discretion, taking into account the factors noted above, the compensation committee then sets the compensation for each executive officer other than the chief executive officer and recommends the compensation for the chief executive officer to our board of directors for approval. Our board of directors discusses the compensation committee's recommendation and ultimately approves the compensation of our chief executive officer without members of management present. Our compensation committee has the authority to engage the services of a consulting firm or other outside advisor to assist it in designing our executive compensation programs and in making compensation decisions. In 2019, the compensation committee retained the services of Radford, an AON Hewitt company, as its external compensation consultant to advise on executive compensation matters including our overall compensation program design, peer group development and updates, and collecting market data to inform our compensation programs for our executives and members of our board of directors. Radford reports directly to our compensation committee. Our compensation committee has assessed the independence of Radford consistent with Nasdaq listing standards and has concluded that the engagement of Radford does not raise any conflict of interest.

Annual base salary

Each named executive officer's base salary is a fixed component of annual compensation for performing specific duties and functions, and has been established by our compensation committee or our board of directors taking into account each individual's role, responsibilities, skills, and experience. Base salaries for our named executive officers are reviewed annually by our compensation committee, typically in connection with our annual performance review process, and adjusted from time to time, based on the recommendation of the compensation, to realign salaries with market levels after taking into account individual responsibilities, performance, and experience. For the fiscal year ended

December 31, 2019, the annual base salaries for each of our named executive officers were as set forth in the following table:

	<u>2019 Base Salary</u>
Pablo J. Cagnoni, M.D.	\$ 550,000(1)
Torben Straight Nissen, Ph.D.	\$ 420,000(2)
Andrew M. Oh	\$ 380,000(3)
Maiken Keson-Brookes	\$ 400,000(4)

- (1) Dr. Cagnoni's base salary was increased from \$530,000 to \$550,000 effective February 15, 2019.
- (2) Dr. Straight Nissen's base salary was increased from \$400,000 to \$420,000 effective February 15, 2019. He resigned his position in July 2019.
- (3) Mr. Oh's base salary was increased from \$360,000 to \$380,000 effective February 15, 2019.
- (4) Ms. Keson-Brookes commenced employment with us in November 2019.

Cash bonus

Our annual bonus program is intended to reward our named executive officers for meeting objective or subjective performance goals for a fiscal year. Our board of directors or compensation committee may approve annual bonuses for our named executive officers based on individual performance, company performance, or as otherwise determined appropriate. Pursuant to the terms of her employment agreement with us, Ms. Keson-Brookes was not eligible to receive an annual bonus for 2019 but will be eligible to receive a cash bonus beginning in fiscal year 2020. For the fiscal year ended December 31, 2019, the bonus targets for each of our named executive officers were as set forth in the following table:

<u>Name</u>	<u>2019 Target Bonus (% of base salary)</u>
Pablo J. Cagnoni, M.D.	50
Torben Straight Nissen, Ph.D.	45(1)
Andrew M. Oh	40

- (1) Dr. Straight Nissen resigned his position in July 2019 and, accordingly, was not eligible to receive an annual bonus for 2019.

Long-term equity incentives

Our equity grant program is intended to align the interests of our named executive officers with those of our stockholders and to motivate them to make important contributions to our performance. Equity awards made to our named executive officers in 2019 were in the form of stock options, which have exercise prices equal to the fair market value of our common stock on the date of grant. Accordingly, our named executive officers will not realize any value from their stock options unless our share price increases above the exercise price and this portion of our named executive officers' compensation is at risk and is directly aligned with stockholder value creation. Stock options granted to

the named executive officers in the fiscal year ended December 31, 2019 are set forth in the following table:

	Number of Shares Subject to Stock Options
Pablo J. Cagnoni, M.D.	100,000
Torben Straight Nissen, Ph.D.	175,000(1)
Andrew M. Oh	115,000
Maiken Keson-Brookes	250,000

- (1) Dr. Straight Nissen forfeited this stock option when he resigned his position in July 2019.

Outstanding Equity Awards at 2019 Fiscal Year End Table

The following table presents information regarding all outstanding equity awards held by each of our named executive officers on December 31, 2019. Dr. Straight Nissen has been omitted from this table as he did not hold any outstanding equity awards as of December 31, 2019.

Name	Option Awards				
	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
Pablo J. Cagnoni, M.D.	1,584,935	2,218,911(1)	—	8.66	4/10/2028
	—	—	164,400(2)	16.43	10/30/2028
	—	—	193,400(3)	16.43	10/30/2028
	—	100,000(4)	—	13.69	1/30/2029
Andrew M. Oh	380,250	380,250(5)	—	4.74	2/14/2028
	214,500(6)	—	—	4.74	2/14/2028
	—	115,000(4)	—	13.69	1/30/2029
Maiken Keson-Brookes	—	250,000(7)	—	7.70	11/28/2029

- (1) The shares underlying this stock option vested 25% on April 11, 2019, then in 36 equal monthly installments thereafter.
- (2) Vesting of the shares underlying this stock option is subject to the achievement of a market-based performance milestone. Once achieved, 25% of the shares vest effective as of October 31, 2019, then in 12 equal quarterly installments thereafter.
- (3) Vesting of the shares underlying this stock option is subject to the achievement of a market-based performance milestone. Once the initial milestone is achieved, 50% of the share vest upon the achievement of a clinical performance milestone and 50% of the shares vest upon the achievement of a second clinical performance milestone.
- (4) The shares underlying this stock option vested 25% on January 31, 2020, then in 12 equal quarterly installments thereafter.
- (5) The shares underlying this stock option vested 25% on December 13, 2018, then in 12 equal quarterly installments thereafter.
- (6) The shares underlying this stock option vested upon the completion of the company's initial public offering.
- (7) The shares underlying this stock option vest 25% on November 18, 2020, then in 12 equal quarterly installments thereafter.

Employment arrangements with our named executive officers

Pablo J. Cagnoni, M.D.

Under the employment agreement with Dr. Cagnoni, or the Cagnoni Employment Agreement, he will continue to serve as our chief executive officer on an at-will basis. Dr. Cagnoni currently receives a base salary of \$585,000 effective March 1, 2020, which is subject to periodic review and adjustment. Dr. Cagnoni is also eligible for an annual performance bonus targeted at 55% of his base salary and is eligible to participate in the employee benefit plans generally available to our employees, subject to the terms of those plans.

The Cagnoni Employment Agreement further provides that if Dr. Cagnoni's employment is terminated by us without Cause (as defined in the Cagnoni Employment Agreement) or Dr. Cagnoni resigns for Good Reason (as defined in the Cagnoni Employment Agreement), he will be entitled to receive: (i) base salary continuation for 12 months following termination, or the Cagnoni Severance Payments, (ii) accelerated vesting of the unvested portion of all stock options and other stock-based awards held by him that are subject to time-based vesting, or the Time-Based Equity Awards, that would have vested and, if applicable, become exercisable, had Dr. Cagnoni remained employed with the company through the one-year anniversary of the Date of Termination (as defined in the Cagnoni Employment Agreement), (iii) extended time to exercise any vested and exercisable stock options held by Dr. Cagnoni as of the Date of Termination for one year, and, (iv) if Dr. Cagnoni is enrolled in our health care program immediately prior to the date of termination and properly elects to receive COBRA benefits, 12 months of COBRA premiums for himself and his eligible dependents at our normal rate of contribution for employees for coverage at the level in effect immediately prior to the date of termination (or a monthly cash payment in lieu thereof if we determine we cannot pay such amounts without potentially violating applicable law). Payment of the Cagnoni Severance Amount shall immediately cease if Dr. Cagnoni breaches the terms of the Restrictive Covenants Agreement between him and us. In lieu of the severance payments and benefits set forth above, in the event Dr. Cagnoni's employment is terminated by us without Cause or he resigns for Good Reason, in either case within 12 months following a Change in Control (as defined in the Cagnoni Employment Agreement), he will be entitled to receive: (i) a lump sum cash amount equal to 1.5 times the sum of (A) his current base salary (or his base salary in effect prior to the Change in Control, if higher) plus (B) his target annual cash incentive compensation for the year of termination, (ii) a lump sum cash amount equal to a pro-rata portion of Dr. Cagnoni's annual target incentive compensation for the year of termination, (iii) if Dr. Cagnoni is enrolled in our health care program immediately prior to the Date of Termination and properly elects to receive COBRA benefits, 18 months of COBRA premiums for himself and his eligible dependents at our normal rate of contribution for employees for coverage at the level in effect immediately prior to the Date of Termination (or a monthly cash payment in lieu thereof if we determine we cannot pay such amounts without potentially violating applicable law), and (iv) except as otherwise provided in the applicable award agreement, accelerated vesting of 100% of all Time-Based Equity Awards held by Dr. Cagnoni.

The payments and benefits provided under the Cagnoni Employment Agreement in connection with a change in control may not be eligible for a federal income tax deduction for the company pursuant to Section 280G of the Internal Revenue Code of 1986, as amended, or the Code. These payments and benefits also may be subject to an excise tax under Section 4999 of the Code. If the payments or benefits payable to the Dr. Cagnoni in connection with a change in control would be subject to the excise tax on golden parachutes imposed under Section 4999 of the Code, then those payments or benefits will be reduced if such reduction would result in a higher net after-tax benefit to Dr. Cagnoni.

Torben Straight Nissen, Ph.D.

On May 14, 2019, we entered into a transition agreement with Dr. Straight Nissen, or the Nissen Transition Agreement. Pursuant to the Nissen Transition Agreement, Dr. Straight Nissen agreed to serve as senior advisor to the company for a period of up to one year from the date of his resignation as president. In addition, 87,500 shares subject to the stock option granted to Dr. Straight Nissen on November 29, 2016, as amended on February 15, 2018, and 3,396 shares subject to the stock option granted to him on April 3, 2017, as amended on February 15, 2018, accelerated and became vested and exercisable as of the date of his resignation. In exchange for this acceleration, Dr. Straight Nissen agreed not to exercise the stock option granted to him on February 15, 2018 and, effective as of the date of the termination of his employment, to forfeit such option in its entirety. The incremental fair value of the accelerated stock options on the modification date is reported in the "Summary Compensation Table" above.

Andrew M. Oh

Under the employment agreement with Mr. Oh, or the Oh Employment Agreement, he will continue to serve as our chief financial officer on an at-will basis. Mr. Oh currently receives a base salary of \$406,600 effective March 1, 2020, which is subject to periodic review and adjustment. Mr. Oh is also eligible for an annual performance bonus targeted at 40% of his base salary and is eligible to participate in the employee benefit plans generally available to our employees, subject to the terms of those plans.

The Oh Employment Agreement further provides that if Mr. Oh's employment is terminated by us without Cause (as defined in the Oh Employment Agreement) or Mr. Oh resigns for Good Reason (as defined in the Oh Employment Agreement), he will be entitled to receive: (i) base salary continuation for nine months following termination, or the Oh Severance Payments, and, (ii) if Mr. Oh is enrolled in our health care program immediately prior to the date of termination and properly elects to receive COBRA benefits, nine months of COBRA premiums for himself and his eligible dependents at our normal rate of contribution for employees for coverage at the level in effect immediately prior to the date of termination (or a monthly cash payment in lieu thereof if we determine we cannot pay such amounts without potentially violating applicable law). Payment of the Oh Severance Amount shall immediately cease if Mr. Oh breaches the terms of the Restrictive Covenants Agreement between him and us. In lieu of the severance payments and benefits set forth above, in the event Mr. Oh's employment is terminated by us without Cause or he resigns for Good Reason, in either case within 12 months following a Change in Control (as defined in the Oh Employment Agreement), he will be entitled to receive: (i) a lump sum cash amount equal to one times the sum of (A) his current base salary (or his base salary in effect prior to the Change in Control, if higher) plus (B) his target annual cash incentive compensation for the year of termination, (ii) if Mr. Oh is enrolled in our health care program immediately prior to the date of termination and properly elects to receive COBRA benefits, 12 months of COBRA premiums for himself and his eligible dependents at our normal rate of contribution for employees for coverage at the level in effect immediately prior to the date of termination (or a monthly cash payment in lieu thereof if we determine we cannot pay such amounts without potentially violating applicable law), and (iii) except as otherwise provided in the applicable award agreement, accelerated vesting of 100% of all Time-Based Equity Awards held by Mr. Oh.

The payments and benefits provided under the Oh Employment Agreement in connection with a change in control may not be eligible for a federal income tax deduction for the company pursuant to Section 280G of the Code. These payments and benefits also may be subject to an excise tax under Section 4999 of the Code. If the payments or benefits payable to the Mr. Oh in connection with a change in control would be subject to the excise tax on golden parachutes imposed under Section 4999 of the Code, then those payments or benefits will be reduced if such reduction would result in a higher net after-tax benefit to Mr. Oh.

Maiken Keson-Brookes

Under the employment agreement with Ms. Keson-Brookes, or the Keson-Brookes Employment Agreement, she serves as our chief legal officer and corporate secretary on an at-will basis. Ms. Keson-Brookes currently receives a base salary of \$400,000 per year, which is subject to periodic review and adjustment. Ms. Keson-Brookes is also eligible for an annual performance bonus targeted at 40% of her base salary and is eligible to participate in the employee benefit plans generally available to our employees, subject to the terms of those plans.

The Keson-Brookes Employment Agreement further provides that if Ms. Keson-Brookes' employment is terminated by us without Cause (as defined in the Keson-Brookes Agreement) or she resigns for Good Reason (as defined in the Keson-Brookes Employment Agreement), she will be entitled to receive: (i) base salary continuation for nine months following termination, or the Keson-Brookes Severance Payments, and, (ii) if Ms. Keson-Brookes is enrolled in our health care program immediately prior to the date of termination and properly elects to receive COBRA benefits, nine months of COBRA premiums for herself and her eligible dependents at our normal rate of contribution for employees for coverage at the level in effect immediately prior to the date of termination (or a monthly cash payment in lieu thereof if we determine we cannot pay such amounts without potentially violating applicable law). Payment of the Keson-Brookes Severance Amount received in any calendar year will be reduced by the amount she is paid in the same such calendar year pursuant to the Restrictive Covenants Agreement between Ms. Keson-Brookes and the company, if any, and shall be suspended or terminated at the discretion of the Company if Ms. Keson-Brookes breaches the terms of the Restrictive Covenants Agreement. In lieu of the severance payments and benefits set forth above, in the event Ms. Keson-Brookes' employment is terminated by us without Cause or she resigns for Good Reason, in either case within 12 months following a Change in Control (as defined in the Keson-Brookes Employment Agreement), she will be entitled to receive: (i) a lump sum cash amount equal to one times the sum of (A) her current base salary (or her base salary in effect prior to the Change in Control, if higher) plus (B) her target annual cash incentive compensation for the year of termination, (ii) if Ms. Keson-Brookes is enrolled in our health care program immediately prior to the date of termination and properly elects to receive COBRA benefits, 12 months of COBRA premiums for herself and her eligible dependents at our normal rate of contribution for employees for coverage at the level in effect immediately prior to the date of termination (or a monthly cash payment in lieu thereof if we determine we cannot pay such amounts without potentially violating applicable law), and (iii) except as otherwise provided in the applicable award agreement, accelerated vesting of 100% of all Time-Based Equity Awards held by Ms. Keson-Brookes.

The payments and benefits provided under the Keson-Brookes Employment Agreement in connection with a change in control may not be eligible for a federal income tax deduction for the company pursuant to Section 280G of the Code. These payments and benefits also may be subject to an excise tax under Section 4999 of the Code. If the payments or benefits payable to the Ms. Brookes in connection with a change in control would be subject to the excise tax on golden parachutes imposed under Section 4999 of the Code, then those payments or benefits will be reduced if such reduction would result in a higher net after-tax benefit to Ms. Brookes.

Additional Narrative Disclosure

401(k) Savings Plan. We maintain a tax-qualified retirement plan that provides eligible employees with an opportunity to save for retirement on a tax-advantaged basis. All participants' interests in their contributions are 100% vested when contributed. We provide a matching contribution of 50% of employee contributions up to 6% of eligible compensation, with a maximum of \$8,000 per year. Matching contributions vest after one year of service. Contributions are allocated to each participant's individual account and are then invested in selected investment alternatives according to the participants' directions. The retirement plan is intended to qualify under Section 401(a) of the Code.

Health and Welfare Benefits. All of our full-time employees, including our executive officers are eligible to participate in certain medical, disability and life insurance benefit programs offered by us. We pay the premiums for term life insurance and long-term disability for all of our employees, including our executive officers. We also provide all employees, including executive officers, with paid time off benefits including, vacation, sick time and holidays. We do not sponsor any qualified or non-qualified defined benefit plans for any of our employees or executives.

Compensation Risk Assessment

We believe that although a portion of the compensation provided to our executive officers and other employees is performance-based, our executive compensation program does not encourage excessive or unnecessary risk taking. Our compensation programs are designed to encourage our executive officers and other employees to remain focused on both short-term and long-term strategic goals, in particular in connection with our pay-for-performance compensation philosophy. As a result, we do not believe that our compensation programs are reasonably likely to have a material adverse effect on us.

Rule 10b5-1 Sales Plans

Our policy governing transactions in our securities by directors, officers, and employees permits our officers, directors, and certain other persons to enter into trading plans complying with Rule 10b5-1 under the Exchange Act. Generally, under these trading plans, the individual relinquishes control over the transactions once the trading plan is put into place. Accordingly, sales under these plans may occur at any time, including possibly before, simultaneously with, or immediately after significant events involving our company.

COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

During 2019, Noubar B. Afeyan, Francis Cuss and Catherine A. Sohn served on our compensation committee. Neither Dr. Cuss nor Dr. Sohn has at any time been one of our officers or employees or had any relationship requiring disclosure herein. Dr. Afeyan previously served as our president from April 2013 to May 2014 and is affiliated with our principal stockholder, the Flagship Pioneering Funds, as set forth in this proxy statement.

REPORT OF THE COMPENSATION COMMITTEE

The information contained in this report shall not be deemed to be (1) "soliciting material," (2) "filed" with the SEC, (3) subject to Regulations 14A or 14C of the Exchange Act, or (4) subject to the liabilities of Section 18 of the Exchange Act. This report shall not be deemed incorporated by reference into any of our other filings under the Exchange Act or the Securities Act, except to the extent that we specifically incorporate it by reference into such filing.

The compensation committee reviewed and discussed the disclosure included in the Executive Compensation section of this proxy statement with management. Based on the review and discussions, the compensation committee recommended to the board of directors that the disclosure included in the Executive Compensation section be included in this proxy statement for the year ended December 31, 2019, for filing with the SEC.

THE COMPENSATION COMMITTEE OF THE BOARD OF DIRECTORS OF
RUBIUS THERAPEUTICS, INC.

Noubar B. Afeyan, Ph.D., Chairperson
Francis Cuss, M.B., B.Chir., FRCP
Catherine A. Sohn, Pharm.D.

April 9, 2020

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Certain Relationships and Transactions

Other than the compensation agreements and other arrangements described under "Executive Compensation" and "Director Compensation" in this proxy statement and the transactions described below, since January 1, 2019, there has not been and there is not currently proposed, any transaction or series of similar transactions to which we were, or will be, a party in which the amount involved exceeded, or will exceed, \$120,000 and in which any director, executive officer, holder of 5% or more of any class of our capital stock or any member of the immediate family of, or entities affiliated with, any of the foregoing persons, had, or will have, a direct or indirect material interest.

Agreement with Flagship Pioneering

In April 2013, we entered into a services agreement with Flagship Ventures Management, Inc., or Flagship Management, an affiliate of the Flagship Pioneering Funds, under which Flagship Management provides us with personnel, advisory and administrative services on an as-needed basis. The Company did not receive services and did not pay any amounts under this agreement during the year ended December 31, 2019. As described above, David R. Epstein, Noubar B. Afeyan, and Michael Rosenblatt are affiliated with the Flagship Pioneering Funds, one of our significant security holders.

Second Amended and Restated Investors' Rights Agreement

We are a party to a second amended and restated investors' rights agreement, dated as of February 23, 2018, with holders of our preferred stock, including holders of 5% or more of our capital stock and entities affiliated with our directors. The investor rights agreement provides these holders the right to demand that we file a registration statement or request that their shares be covered by a registration statement that we are otherwise filing. The investor rights agreement also provides a right of first refusal to purchase future securities sold by us, which such right terminated immediately prior to the consummation of our initial public offering.

Limitation of Liability and Indemnification of Officers and Directors

Our certificate of incorporation contains provisions that limit the liability of our directors for monetary damages to the fullest extent permitted by Delaware law. Consequently, our directors will not be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duties as directors, except liability for the following:

- any breach of their duty of loyalty to our company or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the Delaware General Corporation Law; or
- any transaction from which they derived an improper personal benefit.

Any amendment to, or repeal of, these provisions will not eliminate or reduce the effect of these provisions in respect of any act, omission or claim that occurred or arose prior to that amendment or repeal. If the Delaware General Corporation Law is amended to provide for further limitations on the personal liability of directors of corporations, then the personal liability of our directors will be further limited to the greatest extent permitted by the Delaware General Corporation Law.

In addition, we adopted bylaws which provide that we will indemnify, to the fullest extent permitted by law, any person who is or was a party or is threatened to be made a party to any action,

suit or proceeding by reason of the fact that he or she is or was one of our directors or officers or is or was serving at our request as a director or officer of another corporation, partnership, joint venture, trust, or other enterprise. Our bylaws provide that we may indemnify to the fullest extent permitted by law any person who is or was a party or is threatened to be made a party to any action, suit, or proceeding by reason of the fact that he or she is or was one of our employees or agents or is or was serving at our request as an employee or agent of another corporation, partnership, joint venture, trust or other enterprise. Our bylaws also provide that we must advance expenses incurred by or on behalf of a director or officer in advance of the final disposition of any action or proceeding, subject to very limited exceptions.

We have entered into and in the future plan to enter into agreements to indemnify our directors and executive officers. These agreements, among other things, require us to indemnify these individuals for certain expenses (including attorneys' fees), judgments, fines and settlement amounts reasonably incurred by such person in any action or proceeding, including any action by or in our right, on account of any services undertaken by such person on behalf of our company or that person's status as a member of our board of directors to the maximum extent allowed under Delaware law.

Related Person Transaction Policy

Our board of directors adopted a written related person transactions policy providing that transactions with our directors, officers and holders of five percent or more of our voting securities and their affiliates, each a related person, must be approved by our audit committee. This policy became effective on July 17, 2018, the date our registration statement for our initial public offering became effective. Pursuant to this policy, the audit committee has the primary responsibility for reviewing and approving or disapproving "related person transactions," which are transactions between us and related persons in which the aggregate amount involved exceeds or may be expected to exceed \$120,000 and in which a related person has or will have a direct or indirect material interest. For purposes of this policy, a related person is defined as a director, executive officer, nominee for director, or greater than 5% beneficial owner of our common stock, in each case since the beginning of the most recently completed year, and their immediate family members.

As appropriate for the circumstances, the audit committee will review and consider:

- the related person's interest in the related person transaction;
- the approximate dollar amount involved in the related person transaction;
- the approximate dollar 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 related-party transaction; and
- any other information regarding the related-party 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.

PRINCIPAL STOCKHOLDERS

The following table sets forth information, to the extent known by us or ascertainable from public filings, with respect to the beneficial ownership of our common stock as of February 29, 2020 by:

- each of our directors;
- each of our named executive officers;
- all of our directors and executive officers as a group; and
- each person, or group of affiliated persons, who is known by us to be the beneficial owners of greater-than-5.0% of our common stock.

The column entitled "Shares Beneficially Owned" is based on a total of 80,321,978 shares of our common stock outstanding as of February 29, 2020.

Beneficial ownership is determined in accordance with the rules and regulations of the SEC and includes voting or investment power with respect to our common stock. Shares of our common stock subject to options that are currently exercisable or exercisable within 60 days of February 29, 2020 are considered outstanding and beneficially owned by the person holding the options for the purpose of calculating the percentage ownership of that person but not for the purpose of calculating the percentage ownership of any other person. Except as otherwise noted, the persons and entities in this table have sole voting and investing power with respect to all of the shares of our common stock beneficially owned by them, subject to community property laws, where applicable. Except as otherwise indicated in the footnotes to the table below, addresses of named beneficial owners are in care of Rubius Therapeutics, Inc., 399 Binney Street, Suite 300, Cambridge, Massachusetts 02139.

<u>Name and address of beneficial owner</u>	<u>Shares beneficially owned</u>	
	<u>Number</u>	<u>Percentage</u>
<i>5% Stockholders:</i>		
Entities affiliated with Flagship Pioneering Funds(1)	38,296,526	47.7%
FMR LLC(2)	9,167,292	11.4%
Capital World Investors(3)	5,177,000	6.5%
Baillie Gifford & Co(4)	4,251,470	5.3%
<i>Named Executive Officers and Directors:</i>		
Pablo J. Cagnoni, M.D.(5)	1,926,922	2.3%
Torben Straight Nissen, Ph.D.(6)	1,354,533	1.7%
Andrew M. Oh(7)	671,031	0.8%
Maiken Keson-Brookes(8)	—	0.0%
Noubar B. Afeyan, Ph.D.(9)	38,311,109	47.7%
Francis Cuss, M.B., M.Chair, FRCP(10)	89,583	0.1%
David R. Epstein(11)	5,234,839	6.5%
Natalie Holles(5)	16,666	0.0%
Anne Prener, M.D.(5)	4,166	0.0%
Michael Rosenblatt, M.D.(5)	164,583	0.2%
Catherine A. Sohn(12)	82,083	0.1%
Sir Jonathan R. Symonds, CBE(13)	124,583	0.2%
All executive officers and directors as a group (14 persons)(14)	48,024,794	57.5%

(1) Includes (a) 5,000,000 shares of common stock held by Flagship VentureLabs IV L.L.C. ("VentureLabs IV"), (b) 15,323,593 shares of common stock held by Flagship Ventures Fund IV, L.P. ("Flagship Fund IV"), and (c) 3,830,402 shares of common stock held by

Flagship Ventures Fund IV-Rx, L.P. ("Flagship Fund IV-Rx" and together with VentureLabs IV and Flagship Fund IV, the "Flagship Fund IV Funds"). Flagship Fund IV is a member of VentureLabs IV and also serves as its manager. Flagship Ventures Fund IV General Partner LLC ("Flagship Fund IV GP") is the general partner of Flagship Fund IV and Flagship Fund IV-Rx. Noubar B. Afeyan, Ph.D. is one of our directors and is also a manager of Flagship Fund IV GP. Edwin M. Kania, Jr. is also a manager of Flagship Fund IV GP. Dr. Afeyan and Mr. Kania may be deemed to beneficially own the shares directly held by the Flagship Fund IV Funds. While Mr. Kania is retired from Flagship Pioneering, Inc. ("Flagship Pioneering") he continues to serve as a manager of Flagship Fund IV GP. None of Flagship Fund IV GP, Dr. Afeyan, and Mr. Kania directly own any of the shares held by the Flagship Fund IV Funds, and each of Flagship Fund IV GP, Dr. Afeyan, and Mr. Kania disclaims beneficial ownership of such shares except to the extent of its or his pecuniary interest therein. The address of the entities and individuals listed above is 55 Cambridge Parkway, Suite 800E, Cambridge, MA 02142.

Also includes (d) 5,789,414 shares of common stock held by Flagship Ventures Fund V, L.P. ("Flagship Fund V"), (e) 5,789,414 shares of common stock held by Flagship V VentureLabs Rx Fund, L.P. ("Flagship Fund V-Rx" and together with Flagship Fund V, the "Flagship Fund V Funds"), and (f) 2,563,703 shares of common stock held by Flagship Ventures Opportunities Fund I, L.P. ("Flagship Opportunities"). The general partner of Flagship Fund V and Flagship Fund V-Rx is Flagship Ventures Fund V General Partner LLC ("Flagship Fund V GP"), and the general partner of Flagship Opportunities is Flagship Ventures Opportunities Fund I General Partner LLC ("Flagship Opportunities GP"). Dr. Afeyan is the managing member of Flagship Fund V GP and Flagship Opportunities GP. Dr. Afeyan may be deemed to possess sole voting and investment control over the shares held by the Flagship Fund V Funds, and Flagship Opportunities. None of Flagship Fund V GP, Flagship Opportunities GP, and Dr. Afeyan directly own any of the shares held by the Flagship V Funds and Flagship Opportunities, and each of Flagship Fund V GP, Flagship Opportunities GP, and Dr. Afeyan disclaims beneficial ownership of such shares except to the extent of its or his pecuniary interest therein. The address of the entities and individuals listed above is 55 Cambridge Parkway, Suite 800E, Cambridge, MA 02142.

- (2) Information herein is based on the Amendment No. 2 to Schedule 13G filed by FMR LLC with the SEC on February 7, 2020. Fidelity Management & Research Company ("FMR Co"), Fidelity Personal Trust Company, FMR Co., Inc, and Strategic Advisors LLC beneficially own shares reported this filing. FMR Co., Inc beneficially owns five percent or greater of the outstanding shares reported in this filing. Abigail P. Johnson is a Director, the Chairman, and the Chief Executive Officer of FMR LLC. Members of the Johnson family, including Abigail P. Johnson, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B shareholders have entered into a shareholders' voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders' voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC. Neither FMR LLC nor Abigail P. Johnson has the sole power to vote or direct the voting of the shares owned directly by the various investment companies registered under the Investment Company Act ("Fidelity Funds") advised by FMR Co, a wholly owned subsidiary of FMR LLC, which power resides with the Fidelity

Funds' Boards of Trustees. FMR Co carries out the voting of the shares under written guidelines established by the Fidelity Funds' Boards of Trustees. This filing reflects the securities beneficially owned, or that may be deemed to be beneficially owned, by FMR LLC, certain of its subsidiaries and affiliates, and other companies (collectively, the "FMR Reporters"). This filing does not reflect securities, if any, beneficially owned by certain other companies whose beneficial ownership of securities is disaggregated from that of the FMR Reporters in accordance with Securities and Exchange Commission Release No. 34-39538 (January 12, 1998). The address of the entities and individuals listed above is 245 Summer Street, Boston, Massachusetts 02210.

- (3) Information herein is based on the Amendment No. 1 to Schedule 13G filed by Capital World Investors with the SEC on February 14, 2020. Capital World Investors divisions of Capital Research and Management Company and Capital International Limited collectively provide investment management services under the name Capital World Investors. As of December 31, 2019, Capital World Investors holds more than five percent of our outstanding common stock on behalf of its client SMALLCAP World Fund, Inc. The address of the entities and individuals listed above is 333 South Hope Street, Los Angeles, CA 90071.
- (4) Information herein is based on Amendment No. 1 to Schedule 13G filed by Baillie Gifford & Co. with the SEC on January 17, 2020. Securities reported on this Schedule 13G as being beneficially owned by Baillie Gifford & Co. are held by 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. The address of the entities and individuals listed above is Calton Square, 1 Greenside Row, Edinburgh EH1 3AN, Scotland, UK.
- (5) Consists of shares of common stock underlying options exercisable within 60 days of February 29, 2020.
- (6) Consists of shares of common stock.
- (7) Consists of (a) 214,500 shares of common stock underlying options awarded in connection with the achievement of a performance-based vesting condition and (b) 456,531 shares of common stock underlying options exercisable within 60 days of February 29, 2020.
- (8) Ms. Keson-Brookes commenced employment with us in November 2019 and, to date, none of her options have vested or will vest within 60 days of February 29, 2020.
- (9) Includes (a) 14,583 shares of common stock underlying options held directly by Dr. Afeyan exercisable within 60 days of February 29, 2020, (b) 5,000,000 shares of common stock held by Flagship VentureLabs IV L.L.C. ("VentureLabs IV"), (c) 15,323,593 shares of common stock held by Flagship Ventures Fund IV, L.P. ("Flagship Fund IV"), and (d) 3,830,402 shares of common stock held by Flagship Ventures Fund IV-Rx, L.P. ("Flagship Fund IV-Rx" and together with VentureLabs IV and Flagship Fund IV, the "Flagship Fund IV Funds"). Flagship Fund IV is a member of VentureLabs IV and also serves as its manager. Flagship Ventures Fund IV General Partner LLC ("Flagship Fund IV GP") is the general partner of Flagship Fund IV and Flagship Fund IV-Rx. Noubar B. Afeyan, Ph.D. is one of our directors and is also a manager of Flagship Fund IV GP. Edwin M. Kania, Jr. is also a manager of Flagship Fund IV GP. Dr. Afeyan and Mr. Kania may be deemed to beneficially own the shares directly held by the Flagship Fund IV Funds. While Mr. Kania is retired from Flagship

Pioneering, Inc. ("Flagship Pioneering"), he continues to serve as a manager of Flagship Fund IV GP. None of Flagship Fund IV GP, Dr. Afeyan, and Mr. Kania directly own any of the shares held by the Flagship Fund IV Funds, and each of Flagship Fund IV GP, Dr. Afeyan, and Mr. Kania disclaims beneficial ownership of such shares except to the extent of its or his pecuniary interest therein. The address of the entities and individuals listed above is 55 Cambridge Parkway, Suite 800E, Cambridge, MA 02142.

Also includes (e) 5,789,414 shares of common stock held by Flagship Ventures Fund V, L.P. ("Flagship Fund V"), (f) 5,789,414 shares of common stock held by Flagship V VentureLabs Rx Fund, L.P. ("Flagship Fund V Rx" and together with Flagship Fund V, the "Flagship Fund V Funds"), and (g) 2,563,703 shares of common stock held by Flagship Ventures Opportunities Fund I, L.P. ("Flagship Opportunities"). The general partner of Flagship Fund V and Flagship Fund V Rx is Flagship Ventures Fund V General Partner LLC ("Flagship Fund V GP"), and the general partner of Flagship Opportunities is Flagship Ventures Opportunities Fund I General Partner LLC ("Flagship Opportunities GP"). Dr. Afeyan is the managing member of Flagship Fund V GP and Flagship Opportunities GP. Dr. Afeyan may be deemed to possess sole voting and investment control over the shares held by the Flagship Fund V Funds, and Flagship Opportunities. None of Flagship Fund V GP, Flagship Opportunities GP, and Dr. Afeyan directly own any of the shares held by the Flagship V Funds and Flagship Opportunities, and each of Flagship Fund V GP, Flagship Opportunities GP, and Dr. Afeyan disclaims beneficial ownership of such shares except to the extent of its or his pecuniary interest therein. The address of the entities and individuals listed above is 55 Cambridge Parkway, Suite 800E, Cambridge, MA 02142.

- (10) Consists of (a) 10,000 shares of common stock held by Dr. Cuss and (b) 79,583 shares of common stock underlying options exercisable within 60 days of February 29, 2020.
- (11) Consists of (a) 4,800,453 shares of common stock held directly by Mr. Epstein, (b) 254,386 shares of common stock underlying options held directly by Mr. Epstein exercisable within 60 days of February 29, 2020, and (c) 180,000 shares of common stock held by Three Opinions Foundation Inc. The address of the entities and individuals listed above is 17121 Collins Avenue, Apartment 2104, Sunny Isles Beach, FL 33160.
- (12) Consists of: (a) 2,500 shares of common stock held by Dr. Sohn and (b) 79,583 shares of common stock underlying options exercisable within 60 days of February 29, 2020.
- (13) Consists of: (a) 25,000 shares of common stock held by Sir Jonathan R. Symonds and (b) 99,583 shares of common stock underlying options exercisable within 60 days of February 29, 2020.
- (14) Consists of (a) 44,713,708 shares of common stock and (b) 3,096,586 shares of common stock underlying options exercisable within 60 days of February 29, 2020.

DELINQUENT SECTION 16(A) REPORTS

Section 16(a) of the Exchange Act requires our directors, executive officers, and persons holding more than 10% of our common stock to report their initial ownership of the common stock and other equity securities and any changes in that ownership in reports that must be filed with the SEC. The SEC has designated specific deadlines for these reports, and we must identify in this proxy statement those persons who did not file these reports when due.

Based solely on a review of reports furnished to us, or written representations from reporting persons, we believe all directors, executive officers, and 10% owners timely filed all reports regarding transactions in our securities required to be filed for 2019 by Section 16(a) under the Exchange Act, except for two Form 4 transaction for Dr. Robert Langer.

REPORT OF THE AUDIT COMMITTEE

The audit committee is appointed by the board of directors to assist the board of directors in fulfilling its oversight responsibilities with respect to (1) the integrity of Rubius' consolidated financial statements and financial reporting process and systems of internal controls regarding finance, accounting, and compliance with legal and regulatory requirements, (2) the qualifications, independence, and performance of Rubius' independent registered public accounting firm, (3) the performance of Rubius' internal audit function, if any, and (4) other matters as set forth in the charter of the audit committee approved by the board of directors.

Management is responsible for the preparation of Rubius' consolidated financial statements and the financial reporting process, including its system of internal control over financial reporting and its disclosure controls and procedures. The independent registered public accounting firm is responsible for performing an audit of Rubius' financial statements in accordance with the standards of the Public Company Accounting Oversight Board (PCAOB) and issuing a report thereon. The audit committee's responsibility is to monitor and oversee these processes.

In connection with these responsibilities, the audit committee reviewed and discussed with management and the independent registered public accounting firm the audited consolidated financial statements of Rubius for the fiscal year ended December 31, 2019. The audit committee also discussed with the independent registered public accounting firm the matters required to be discussed by the PCAOB's Auditing Standard No. 1301, *Communication with Audit Committees*. In addition, the audit committee received written communications from the independent registered public accounting firm confirming their independence as required by the applicable requirements of the PCAOB and has discussed with the independent registered public accounting firm their independence.

Based on the reviews and discussions referred to above, the audit committee recommended to the board of directors that the audited consolidated financial statements of Rubius be included in Rubius' Annual Report on Form 10-K for the fiscal year ended December 31, 2019, that was filed with the SEC. The information contained in this report shall not be deemed to be (1) "soliciting material," (2) "filed" with the SEC, (3) subject to Regulations 14A or 14C of the Exchange Act, or (4) subject to the liabilities of Section 18 of the Exchange Act. This report shall not be deemed incorporated by reference into any of our other filings under the Exchange Act or the Securities Act, except to the extent that we specifically incorporate it by reference into such filing.

THE AUDIT COMMITTEE OF THE BOARD OF DIRECTORS OF RUBIUS
THERAPEUTICS, INC.

Sir Jonathan R. Symonds, CBE, *Chairperson*
Natalie Holles
Catherine A. Sohn, Pharm.D.

April 9, 2020

HOUSEHOLDING OF PROXY 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 documents, including the annual report to stockholders and proxy statement, 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 Rubius Therapeutics, Inc., 399 Binney Street, Suite 300, Cambridge, Massachusetts 02139, Attention: Corporate Secretary, telephone: (617) 679-9600. 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.

STOCKHOLDER PROPOSALS

A stockholder who would like to have a proposal considered for inclusion in our 2021 proxy statement must submit the proposal in accordance with the procedures outlined in Rule 14a-8 of the Exchange Act so that it is received by us no later than December 10, 2020. However, if the date of the 2021 annual meeting of stockholders is changed by more than 30 days from the date of the previous year's meeting, then the deadline is a reasonable time before we begin to print and send our proxy statement for the 2021 annual meeting of stockholders. SEC rules set standards for eligibility and specify the types of stockholder proposals that may be excluded from a proxy statement. Stockholder proposals should be addressed to Rubius Therapeutics, Inc., 399 Binney Street, Suite 300, Cambridge, Massachusetts 02139, Attention: Corporate Secretary.

If a stockholder wishes to propose a nomination of persons for election to our board of directors or present a proposal at an annual meeting but does not wish to have the proposal considered for inclusion in our proxy statement and proxy card, our bylaws establish an advance notice procedure for such nominations and proposals. Stockholders at an annual meeting may only consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of the board of directors or by a stockholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has delivered timely notice in proper form to our corporate secretary of the stockholder's intention to bring such business before the meeting.

The required notice must be in writing and received by our corporate secretary at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary of the preceding year's annual meeting. However, in the event that the date of the annual meeting is advanced by more than 30 days, or delayed by more than 60 days, from the first anniversary of the preceding year's annual meeting, a stockholder's notice must be so received no earlier than the 120th day prior to such annual meeting and not later than the close of business on the later of (A) the 90th day prior to such annual meeting and (B) the tenth day following the day 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 first occurs. For stockholder proposals to be brought before the 2021 annual meeting of stockholders, the required notice must be received by our Corporate Secretary at our principal executive offices no earlier than January 21, 2021 and no later than February 22, 2021. Stockholder proposals and the required notice should be addressed to Rubius Therapeutics, Inc., 399 Binney Street, Suite 300, Cambridge, Massachusetts 02139, Attention: Corporate Secretary.

OTHER MATTERS

Our board of directors does not know of any other matters to be brought before the Annual Meeting. If any other matters not mentioned in this proxy statement are properly brought before the meeting, the individuals named in the enclosed proxy intend to use their discretionary voting authority under the proxy to vote the proxy in accordance with their best judgment on those matters.

RUBIUS THERAPEUTICS, INC.
 ATTN: CORPORATE SECRETARY
 399 BINNEY STREET, SUITE 300
 CAMBRIDGE, MASSACHUSETTS 02139

VOTE BY INTERNET
Before The Meeting - Go to www.proxyvote.com

Use the Internet to transmit your voting instructions and for electronic delivery of information up until 11:59 p.m. Eastern Time the day before the cut-off date or meeting date. 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/RUBY2020

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.

VOTE BY PHONE - 1-800-690-6903

Use any touch-tone telephone to transmit your voting instructions up until 11:59 p.m. Eastern Time the day before the cut-off date or meeting date. Have your proxy card in hand when you call and then follow the instructions.

VOTE BY MAIL

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:

D02256-P35984

KEEP THIS PORTION FOR YOUR RECORDS
 DETACH AND RETURN THIS PORTION ONLY

THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.

RUBIUS THERAPEUTICS, INC.

The Board of Directors recommends you vote FOR Proposals 1 and 2:

1. Election of Class II Directors

For All	Withhold All	For All Except
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

To withhold authority to vote for any individual nominee(s), mark "For All Except" and write the number(s) of the nominee(s) on the line below.

Nominees:

- 01) Noubar B. Afeyan
- 02) Michael Rosenblatt
- 03) Catherine A. Sohn

For Against Abstain

2. To ratify the appointment of PricewaterhouseCoopers LLP as Rubius Therapeutics, Inc.'s independent registered public accounting firm for the fiscal year ending December 31, 2020.

NOTE: Such other business as may properly come before the meeting or any adjournment thereof.

NOTE: Please sign as name appears hereon. Joint owners should each sign. When signing as attorney, executor, administrator, trustee or guardian, please give full title as such.

Signature [PLEASE SIGN WITHIN BOX]	Date

Signature (Joint Owners)	Date

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting:
The Notice and Proxy Statement and Form 10-K are available at www.proxyvote.com.

D02257-P35984

**RUBIUS THERAPEUTICS, INC.
Annual Meeting of Stockholders
May 21, 2020 9:00 AM EDT**

PROXY

**THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS
OF RUBIUS THERAPEUTICS, INC.**

The undersigned hereby appoints Pablo Cagnoni and Andrew Oh, and each of them, with the power to act without the other and with the power of substitution, as proxies and attorneys-in-fact and hereby authorizes them to represent and vote, as provided on the other side, all the shares of Rubius Therapeutics, Inc. Common Stock which the undersigned is entitled to vote and, in their discretion, to vote upon such other business as may properly come before the Annual Meeting of Stockholders of the Company to be held on-line at 9:00 AM EDT on May 21, 2020 or any adjournment thereof, with all powers which the undersigned would possess if present at the Meeting.

THIS PROXY, WHEN PROPERLY EXECUTED, WILL BE VOTED IN THE MANNER DIRECTED ON THE REVERSE SIDE BY THE UNDERSIGNED. IF NO DIRECTION IS MADE BUT THE CARD IS SIGNED, THIS PROXY CARD WILL BE VOTED FOR THE ELECTION OF ALL NOMINEES UNDER PROPOSAL 1 AND FOR PROPOSAL 2 AND IN THE DISCRETION OF THE PROXIES WITH RESPECT TO SUCH OTHER BUSINESS AS MAY PROPERLY COME BEFORE THE MEETING.

(Continued and to be marked, dated and signed, on the other side)