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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549**

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**SCHEDULE 14A**

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

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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 Rule 14a-12

**SYNOLOGIC, INC.**

(Name of Registrant as Specified In Its Charter)

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

Payment of Filing Fee (Check the appropriate box):

- No fee required.
- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

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

2) Aggregate number of securities to which transaction applies:

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

4) Proposed maximum aggregate value of transaction:

5) Total fee paid:

Fee paid previously with preliminary materials.

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

1) Amount previously paid:

2) Form, Schedule or Registration Statement No:

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3) Filing party:

4) Date Filed:

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**April 18, 2019**

To Our Stockholders:

You are cordially invited to attend the 2019 annual meeting of stockholders of Synlogic, Inc. to be held at 9:00 a.m. Eastern Time on Wednesday, June 5, 2019 at 301 Binney Street, Suite 402, Cambridge, MA 02142.

Details regarding the meeting, the business to be conducted at the meeting, and information about Synlogic that you should consider when you vote your shares are described in this proxy statement.

At the annual meeting, three people will be elected to our Board of Directors. In addition, we will ask stockholders to ratify the selection of KPMG LLP as our independent registered public accounting firm for our fiscal year ending December 31, 2019. The Board of Directors recommends the approval of each of the two proposals. Such other business will be transacted as may properly come before the annual meeting.

Under Securities and Exchange Commission rules that allow companies to furnish proxy materials to stockholders over the Internet, we have elected to deliver our proxy materials to the majority of our stockholders over the Internet. This delivery process allows us to provide stockholders with the information they need, while at the same time conserving natural resources and lowering the cost of delivery. On April 18, 2019, we intend to begin sending to our stockholders a Notice of Internet Availability of Proxy Materials (the "Notice") containing instructions on how to access our proxy statement for our 2019 annual meeting of stockholders and our 2019 annual report to stockholders. The Notice also provides instructions on how to vote online or by telephone and how to receive a paper copy of the proxy materials by mail.

We hope you will be able to attend the annual meeting. Whether you plan to attend the annual meeting or not, it is important that you cast your vote either in person or by proxy. You may vote over the Internet as well as by telephone or by mail. When you have finished reading the proxy statement, you are urged to vote in accordance with the instructions set forth in this proxy statement. We encourage you to vote by proxy so that your shares will be represented and voted at the meeting, whether or not you can attend.

Thank you for your continued support of Synlogic. We look forward to seeing you at the annual meeting.

Sincerely,

A handwritten signature in black ink, appearing to read "Aoife Brennan". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

Aoife Brennan  
President and CEO, CMO



April 18, 2019

**NOTICE OF 2019 ANNUAL MEETING OF STOCKHOLDERS**

TIME: 9:00 a.m. Eastern Time

DATE: Wednesday, June 5, 2019

PLACE: Synlogic, Inc., 301 Binney Street, Suite 402, Cambridge, MA 02142

**PURPOSES:**

1. To elect three Class I directors to serve three-year terms expiring in 2022;
2. To ratify the appointment of KPMG LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2019; and
3. To transact such other business that is properly presented at the annual meeting and any adjournments or postponements thereof.

**WHO MAY VOTE:**

You may vote if you were the record owner of Synlogic, Inc. common stock at the close of business on April 10, 2019. A list of stockholders of record will be available at the annual meeting and, during the 10 days prior to the annual meeting, at our principal executive offices located at 301 Binney Street, Suite 402, Cambridge, MA 02142.

All stockholders are cordially invited to attend the annual meeting. **Whether you plan to attend the annual meeting or not, we urge you to vote by following the instructions in the Notice of Internet Availability of Proxy Materials that you previously received and submit your proxy by the Internet, telephone or mail in order to ensure the presence of a quorum.** You may change or revoke your proxy at any time before it is voted at the meeting.

BY ORDER OF THE BOARD OF DIRECTORS

A handwritten signature in black ink, appearing to read "Maiken Keson-Brookes". The signature is fluid and cursive, with a long horizontal stroke at the end.

Maiken Keson-Brookes  
Secretary

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**SYNLOGIC, INC.**  
**301 Binney Street, Suite 402**  
**Cambridge, MA 02142**

**PROXY STATEMENT FOR THE 2019 ANNUAL MEETING OF STOCKHOLDERS  
TO BE HELD ON JUNE 5, 2019**

This proxy statement, along with the accompanying notice of 2019 annual meeting of stockholders, contains information about the 2019 annual meeting of stockholders of Synlogic, Inc., including any adjournments or postponements of the annual meeting. We are holding the annual meeting at 9:00 a.m., Eastern Time, on Wednesday, June 5, 2019, at our corporate offices located at 301 Binney Street, Suite 402, Cambridge, MA 02142.

In this proxy statement, we refer to Synlogic, Inc. as “Synlogic,” “the Company,” “we”, and “us.”

This proxy statement relates to the solicitation of proxies by our Board of Directors, or Board, for use at the annual meeting.

**On or about April 18, 2019, we intend to begin sending to our stockholders the Important Notice Regarding the Availability of Proxy Materials containing instructions on how to access our proxy statement for our 2019 annual meeting of stockholders and our 2018 annual report to stockholders.**

**EXPLANATORY NOTE**

On August 28, 2017, Synlogic, Inc., formerly known as Mirna Therapeutics, Inc. (NASDAQ: MIRN) (“Mirna”), completed its business combination with Synlogic, Inc. (“Private Synlogic”) in accordance with the terms of the Agreement and Plan of Merger and Reorganization, dated as of May 15, 2017, by and among Mirna, Meerkat Merger Sub, Inc. (“Merger Sub”), and Private Synlogic (the “Merger Agreement”), pursuant to which Merger Sub merged with and into Private Synlogic, with Private Synlogic surviving as a wholly owned subsidiary of Mirna (the “Merger”). On August 28, 2017, immediately after completion of the Merger, Mirna changed its name to “Synlogic, Inc.” (“Public Synlogic”) (NASDAQ: SYBX).

In this proxy statement, unless the context specifically indicates otherwise, “the Company”, “we”, “us”, “our”, and “Synlogic” refer to Public Synlogic and its subsidiaries following the Merger, effective on August 28, 2017, and to Private Synlogic and its subsidiaries prior to the Merger. References to “Pre-Merger Mirna” means Mirna prior to the Merger effective on August 28, 2017.

**IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE  
SHAREHOLDER MEETING TO BE HELD ON JUNE 5, 2019**

This proxy statement, the Notice of Annual Meeting of Stockholders, our form of proxy card and our 2018 annual report to stockholders are available for viewing, printing and downloading at [www.proxyvote.com](http://www.proxyvote.com). To view these materials please have your 12-digit control number(s) available that appears on your Notice or proxy card. On this website, you can also elect to receive future distributions of our proxy statements and annual reports to stockholders by electronic delivery.

Additionally, you can find a copy of our Annual Report on Form 10-K, which includes our financial statements, for the fiscal year ended December 31, 2018 on the website of the Securities and Exchange Commission, or the SEC, at [www.sec.gov](http://www.sec.gov), or in the “Financials” section of the “Investors & Media” section of our website at [www.synlogictx.com](http://www.synlogictx.com). You may also obtain a printed copy of our Annual Report on Form 10-K, including our financial statements, free of charge, from us by sending a written request to: Investor Relations, Synlogic, Inc., 301 Binney Street, Suite 402, Cambridge, MA 02142. Exhibits will be provided upon written request and payment of an appropriate processing fee.

## IMPORTANT INFORMATION ABOUT THE ANNUAL MEETING AND VOTING

### Why is the Company Soliciting My Proxy?

The Board of Synlogic is soliciting your proxy to vote at the 2019 annual meeting of stockholders to be held at 301 Binney Street, Suite 402, Cambridge MA 02142, on Wednesday, June 5, 2019, at 9:00 a.m. Eastern Time and any adjournments of the meeting, which we refer to as the annual meeting. The proxy statement along with the accompanying Notice of Annual Meeting of Stockholders summarizes the purposes of the meeting and the information you need to know to vote at the annual meeting.

We have made available to you on the Internet or have sent you this proxy statement, the Notice of Annual Meeting of Stockholders, the proxy card and a copy of our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 because you owned shares of Synlogic, Inc. common stock on the record date. The Company intends to commence distribution of the Important Notice Regarding the Availability of Proxy Materials, which we refer to throughout this proxy statement as the Notice, and, if applicable, the proxy materials to stockholders on or about April 18, 2019.

### Why Did I Receive a Notice in the Mail Regarding the Internet Availability of Proxy Materials Instead of a Full Set of Proxy Materials?

As permitted by the rules of the SEC, we may furnish our proxy materials to our stockholders by providing access to such documents on the Internet, rather than mailing printed copies of these materials to each stockholder. Most stockholders will not receive printed copies of the proxy materials unless they request them. We believe that this process should expedite stockholders' receipt of proxy materials, lower the costs of the annual meeting and help to conserve natural resources. If you received the Notice by mail or electronically, you will not receive a printed or email copy of the proxy materials, unless you request one by following the instructions included in the Notice. Instead, the Notice instructs you as to how you may access and review all of the proxy materials and submit your proxy on the Internet. If you requested a paper copy of the proxy materials, you may authorize the voting of your shares by following the instructions on the proxy card, in addition to the other methods of voting described in this proxy statement.

### Who Can Vote?

Only stockholders who owned our common stock at the close of business on April 10, 2019 are entitled to vote at the annual meeting. On this record date, there were 25,388,643 shares of our common stock outstanding and entitled to vote. Our common stock is our only class of voting stock.

You do not need to attend the annual meeting to vote your shares. Shares represented by valid proxies, received in time for the annual meeting and not revoked prior to the annual meeting, will be voted at the annual meeting. For instructions on how to change or revoke your proxy, see "May I Change or Revoke My Proxy?" below.

### How Many Votes Do I Have?

Each share of our common stock that you own entitles you to one vote.

### How Do I Vote?

Whether you plan to attend the annual meeting or not, we urge you to vote by proxy. All shares represented by valid proxies that we receive through this solicitation, and that are not revoked, will be voted in accordance with your instructions on the proxy card or as instructed via Internet or telephone. You may specify whether your

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shares should be voted for or withheld for each nominee for director, and whether your shares should be voted for, against or abstain with respect to the other proposal. If you properly submit a proxy without giving specific voting instructions, your shares will be voted in accordance with the Board's recommendations as noted below. Voting by proxy will not affect your right to attend the annual meeting. If your shares are registered directly in your name through our stock transfer agent, American Stock Transfer & Trust Company, LLC, or you have stock certificates registered in your name, you may vote:

- **By Internet or by telephone.** Follow the instructions included in the Notice or, if you received printed materials, in the proxy card to vote over the Internet or by telephone.
- **By mail.** If you received a proxy card by mail, you can vote by mail by completing, signing, dating and returning the proxy card as instructed on the card. If you sign the proxy card but do not specify how you want your shares voted, they will be voted in accordance with the Board's recommendations as noted below.
- **In person at the meeting.** If you attend the meeting, you may deliver a completed proxy card in person or you may vote by completing a ballot, which will be available at the meeting.

**Telephone and Internet voting facilities for stockholders of record will be available 24 hours a day and will close at 11:59 p.m. Eastern Time on June 4, 2019.**

If your shares are held in "street name" (held in the name of a bank, broker or other holder of record), you will receive instructions from the holder of record. You must follow the instructions of the holder of record in order for your shares to be voted. Telephone and Internet voting also will be offered to stockholders owning shares through certain banks and brokers. If your shares are not registered in your own name and you plan to vote your shares in person at the annual meeting, you should contact your broker or agent to obtain a legal proxy or broker's proxy card and bring it to the annual meeting in order to vote.

### **How Does the Board Recommend That I Vote on the Proposals?**

The Board recommends that you vote as follows:

- **"FOR"** the election of the nominees for director; and
- **"FOR"** the ratification of the selection of KPMG LLP as our independent registered public accounting firm for our fiscal year ending December 31, 2019.

If any other matter is presented at the annual meeting, your proxy provides that your shares will be voted by the proxy holder listed in the proxy in accordance with his or her best judgment. At the time this proxy statement was first made available, we knew of no matters that needed to be acted on at the annual meeting, other than those discussed in this proxy statement.

### **May I Change or Revoke My Proxy?**

If you give us your proxy, you may change or revoke it at any time before the annual meeting. You may change or revoke your proxy in any one of the following ways:

- if you received a proxy card, by signing a new proxy card with a date later than your previously delivered proxy and submitting it as instructed above;
- by re-voting by Internet or by telephone as instructed above;
- by notifying Synlogic's Secretary in writing before the annual meeting that you have revoked your proxy; or

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- by attending the annual meeting in person and voting in person. Attending the annual meeting in person will not in and of itself revoke a previously submitted proxy. You must specifically request at the annual meeting that it be revoked.

Your most current vote, whether by telephone, Internet or proxy card is the one that will be counted.

### **What if I Receive More Than One Notice or Proxy Card?**

You may receive more than one Notice or proxy card if you hold shares of our common stock in more than one account, which may be in registered form or held in street name. Please vote in the manner described above under “How Do I Vote?” for each account to ensure that all of your shares are voted.

### **Will My Shares be Voted if I Do Not Vote?**

If your shares are registered in your name or if you have stock certificates, they will not be counted if you do not vote as described above under “How Do I Vote?” If your shares are held in street name and you do not provide voting instructions to the bank, broker or other nominee that holds your shares as described above, the bank, broker or other nominee that holds your shares has the authority to vote your unvoted shares only with respect to Proposal 2. Therefore, we encourage you to provide voting instructions to your bank, broker or other nominee. This ensures your shares will be voted at the annual meeting and in the manner you desire. A “broker non-vote” will occur if your broker cannot vote your shares on a particular matter because it has not received instructions from you and does not have discretionary voting authority on that matter or because your broker chooses not to vote on a matter for which it does have discretionary voting authority.

### **What Vote is Required to Approve Each Proposal and How are Votes Counted?**

#### **Proposal 1: Elect Directors**

The nominees for director who receive the most votes (also known as a “plurality” of the votes cast) will be elected. You may vote either FOR all of the nominees, WITHHOLD your vote from all of the nominees or WITHHOLD your vote from any one or more of the nominees. Votes that are withheld will not be included in the vote tally for the election of the directors. Brokerage firms do not have authority to vote customers’ unvoted shares held by the firms in street name for the election of the directors. As a result, any shares not voted by a customer will be treated as a broker non-vote. Such broker non-votes will have no effect on the results of this vote.

#### **Proposal 2: Ratify Selection of Independent Registered Public Accounting Firm**

The affirmative vote of a majority of the shares cast affirmatively or negatively for this proposal is required to ratify the selection of our independent registered public accounting firm. Abstentions will have no effect on the results of this vote. Brokerage firms have authority to vote customers’ unvoted shares held by the firms in street name on this proposal. If a broker does not exercise this authority, such broker non-votes will have no effect on the results of this vote. We are not required to obtain the approval of our stockholders to select our independent registered public accounting firm. However, if our stockholders do not ratify the selection of KPMG LLP as our independent registered public accounting firm for 2019, our Audit Committee of our Board will reconsider its selection.

### **Is Voting Confidential?**

We will keep all the proxies, ballots and voting tabulations private. We only let our Inspector of Election, our Secretary, examine these documents. Management will not know how you voted on a specific proposal unless it is necessary to meet legal requirements. We will, however, forward to management any written comments you make on the proxy card or otherwise provide.

### **Where Can I Find the Voting Results of the Annual Meeting?**

The preliminary voting results will be announced at the annual meeting, and we will publish preliminary results, or final results if available, in a Current Report on Form 8-K within four business days of the annual meeting. If final results are unavailable at the time we file the Form 8-K, then we will file an amended report on Form 8-K to disclose the final voting results within four business days after the final voting results are known.

### **What Are the Costs of Soliciting these Proxies?**

We will pay all of the costs of soliciting these proxies. Our directors and employees may solicit proxies in person or by telephone, fax or email. We will pay these employees and directors no additional compensation for these services. We will ask banks, brokers and other institutions, nominees and fiduciaries to forward these proxy materials to their principals and to obtain authority to execute proxies. We will then reimburse them for their expenses.

### **What Constitutes a Quorum for the Annual Meeting?**

The presence, in person or by proxy, of the holders of a majority of the voting power of all outstanding shares of our common stock entitled to vote at the annual meeting is necessary to constitute a quorum at the annual meeting. Votes of stockholders of record who are present at the annual meeting in person or by proxy, abstentions, and broker non-votes are counted for purposes of determining whether a quorum exists.

### **Attending the Annual Meeting**

The annual meeting will be held at 9:00 a.m. Eastern time on Wednesday, June 5, 2019 at 301 Binney Street, Suite 402, Cambridge, MA 02142. When you arrive, signs will direct you to the appropriate meeting rooms. You do not need to attend the annual meeting in order to vote.

### **Householding of Annual Disclosure Documents**

SEC rules concerning the delivery of annual disclosure documents allow us or your broker to send a single Notice or, if applicable, a single set of our proxy materials to any household at which two or more of our stockholders reside, if we or your broker believe that the stockholders are members of the same family. This practice, referred to as “householding,” benefits both you and us. It reduces the volume of duplicate information received at your household and helps to reduce our expenses. The rule applies to our Notices, annual reports, proxy statements and information statements. Once you receive notice from your broker or from us that communications to your address will be “household,” the practice will continue until you are otherwise notified or until you revoke your consent to the practice. Stockholders who participate in householding will continue to have access to and utilize separate proxy voting instructions.

If your household received a single Notice or, if applicable, a single set of proxy materials this year, but you would prefer to receive your own copy, please contact our corporate secretary at Synlogic, Inc., 301 Binney Street, Suite 402, Cambridge MA 02142.

If you do not wish to participate in “householding” and would like to receive your own Notice or, if applicable, set of Synlogic’s proxy materials in future years, follow the instructions described below. Conversely,

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if you share an address with another Synlogic stockholder and together both of you would like to receive only a single Notice or, if applicable, set of proxy materials, follow these instructions:

- If your Synlogic shares are registered in your own name, please contact our transfer agent, American Stock Transfer & Trust Company, LLC, and inform them of your request by calling them at 1-800-937-5449 or writing them at 6201 15<sup>th</sup> Avenue, Brooklyn, NY 11219.
- If a broker or other nominee holds your Synlogic shares, please contact the broker or other nominee directly and inform them of your request. Be sure to include your name, the name of your brokerage firm and your account number.

### **Electronic Delivery of Company Stockholder Communications**

Most stockholders can elect to view or receive copies of future proxy materials over the Internet instead of receiving paper copies in the mail.

You can choose this option and save the Company the cost of producing and mailing these documents by:

- following the instructions provided on your Notice or proxy card; or
- following the instructions provided when you vote over the Internet.

## SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information with respect to the beneficial ownership of our common stock as of April 1, 2019 for (a) the executive officers named in the Summary Compensation Table on page 19 of this proxy statement, (b) each of our directors and director nominees, (c) all of our current directors and executive officers as a group and (d) each stockholder known by us to own beneficially more than 5% of our common stock. Beneficial ownership is determined in accordance with the rules of the SEC and includes voting or investment power with respect to the securities. We deem shares of common stock that may be acquired by an individual or group within 60 days of April 1, 2019 pursuant to the exercise of options to be outstanding for the purpose of computing the percentage ownership of such individual or group, but are not deemed to be outstanding for the purpose of computing the percentage ownership of any other person shown in the table. Except as indicated in footnotes to this table, we believe that the stockholders named in this table have sole voting and investment power with respect to all shares of common stock shown to be beneficially owned by them based on information provided to us by these stockholders. Percentage of ownership is based on 25,388,643 shares of common stock outstanding on April 1, 2019.

<b>Name and Address of Beneficial Owner**</b>	<b>Shares Beneficially Owned (1)</b>	
	<b>Number</b>	<b>Percent</b>
<b>Directors and Named Executive Officers:</b>		
Jose-Carlos Gutiérrez-Ramos, Ph.D. (2)	352,619	1.39%
Andrew Gengos	—	*
Aoife Brennan, MB, BCh, BAO, MMSc (3)	137,173	*
Todd Shegog (4)	113,282	*
Peter Barrett, Ph.D. (5)	2,674,544	10.53%
Chau Khuong (6)	2,036,662	8.02%
Nick Leschly (7)	44,827	*
Edward Mathers (8)	7,619	*
Michael Powell, Ph.D. (9)	582,591	2.29%
Richard P. Shea (10)	6,666	*
Patricia Hurter, Ph.D.	—	*
All directors and current executive officers as a group (9 persons) (11)	5,603,364	21.88%
<b>Five Percent Stockholders:</b>		
New Enterprise Associates 14, L.P. (12) 1954 Greenspring Drive, Suite 600 Timonium, MD 21093	4,229,410	16.66%
Atlas Venture Fund IX, L.P. (13) 25 First Street, Suite 303 Cambridge, MA 02141	2,651,963	10.45%
Wellington Management Group LLP (14) 280 Congress Street Boston, MA 02210	3,239,354	12.76%
OrbiMed Private Investments VI, L.P. (15) 601 Lexington Avenue, 54th Floor New York, NY 10022	2,029,996	8.00%
Aquilo Capital Management, LLC (16) One Letterman Drive, Suite D4900 Building D, The Presidio San Francisco, CA 94129	1,334,179	5.26%

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- \* Represents beneficial ownership of less than 1% of the outstanding shares of our common stock.
- \*\* Addresses are given for beneficial owners of more than 5% of the outstanding common stock only.
- (1) Includes shares issuable upon the exercise of options to purchase shares of common stock within 60 days following April 1, 2019.
  - (2) Consists of 352,619 shares of our common stock held by Dr. Gutiérrez-Ramos.
  - (3) Consists of 51,767 shares of our common stock held by Dr. Brennan and 85,406 shares of our common stock issuable upon the exercise of options exercisable within 60 days following April 1, 2019.
  - (4) Consists of 52,243 shares of our common stock held by Mr. Shegog and 61,039 shares of our common stock issuable upon the exercise of options exercisable within 60 days following April 1, 2019.
  - (5) Consists of 2,651,963 shares of our common stock owned by Atlas Venture Fund IX, L.P. (“Atlas IX”) and 22,581 shares of our common stock issuable upon the exercise of options exercisable within 60 days following April 1, 2019. Atlas Venture Associates IX, L.P. (“AVA IX LP”), is the general partner of Atlas IX, and Atlas Venture Associates IX, LLC (“AVA IX LLC”), is the general partner of AVA IX LP. Dr. Barrett disclaims Section 16 beneficial ownership of the securities held by Atlas IX, except to the extent of his pecuniary interest therein, if any.
  - (6) Consists of 2,029,996 shares of our common stock held of record by OrbiMed Private Investments VI, LP (“OPI VI”) and 6,666 shares of our common stock issuable upon the exercise of options exercisable within 60 days following April 1, 2019. OrbiMed Capital GP VI LLC (“GP VI”) is the sole general partner of OPI VI, and OrbiMed Advisors LLC (“Advisors”), a registered adviser under the Investment Advisers Act of 1940, as amended, is the sole managing member of GP VI. By virtue of such relationships, GP VI and Advisors may be deemed to have voting and investment power with respect to the securities held by OPI VI noted above and as a result may be deemed to have beneficial ownership over such securities. Advisors exercises this investment and voting power through a management committee comprised of Carl L. Gordon, Sven H. Borho and Jonathan T. Silverstein, each of whom disclaims beneficial ownership of the shares held by OPI VI. Mr. Khuong is an employee of Advisors. Each of GP VI, Advisors and Mr. Khuong disclaims Section 16 beneficial ownership of the securities held by OPI VI, except to the extent of its or his pecuniary interest therein, if any. This report shall not be deemed an admission that any such entity or person is a beneficial owner of such securities for the purpose of Section 16 or for any other purpose.
  - (7) Consists of 23,150 shares of our common stock held by Mr. Leschly and 21,677 shares of our common stock issuable upon the exercise of options exercisable within 60 days following April 1, 2019.
  - (8) Consists of 7,619 shares of our common stock issuable upon the exercise of options held by Mr. Mathers exercisable within 60 days following April 1, 2019.
  - (9) Consists of 574,972 shares of our common stock held by Sofinnova Venture Partners VIII, L.P and 7,619 shares of our common stock issuable upon the exercise of options exercisable within 60 days following April 1, 2019. (“SVP VIII”). Sofinnova Management VIII, L.L.C. (“SM VIII”), the general partner of SVP VIII, may be deemed to have sole voting and dispositive power with regard to these shares, and Dr. Powell, Dr. James I. Healy, and Dr. Anand Mehra, the managing members of SM VIII, may be deemed to have shared voting and dispositive power with regard to these shares.
  - (10) Consists of 6,666 shares of our common stock issuable upon the exercise of options held by Mr. Shea exercisable within 60 days following April 1, 2019.
  - (11) See footnotes 3 through 10.
  - (12) This information is based solely on a Schedule 13F filed with the Securities and Exchange Commission on or about February 1, 2018. Consists of 4,229,410 shares held by New Enterprise Associates 14, L.P. (“NEA 14”). NEA Partners 14, L.P. (“NEA Partners 14”) is the sole general partner of NEA 14. NEA 14 GP, LTD (“NEA 14 LTD”) is the sole general partner of NEA Partners 14. The individual Directors (the “Directors”) of NEA 14 LTD are M. James Barrett, Peter J. Barris, Forest Baskett, Anthony A. Florence, Jr., Patrick J. Kerins, David M. Mott, Scott D. Sandell, Peter Sonsini and Ravi Viswanathan. The Directors share voting and dispositive power with regard to shares held directly by NEA 14. Edward Mathers is a partner at NEA.
  - (13) This information is based solely on a Schedule 13D filed with the Securities and Exchange Commission on or about September 29, 2017. Consists of 2,651,963 shares of our common stock owned by Atlas IX. AVA IX LP is the general partner of Atlas IX, and AVA IX LLC is the general partner of AVA IX LP. Each of

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AVA IX LP and AVA IX LLC disclaims Section 16 beneficial ownership of the securities held by Atlas IX, except to the extent of its pecuniary interest therein, if any.

- (14) This information is based solely on a Schedule 13G/A filed with the Securities and Exchange Commission on February 12, 2019. Consists of 3,239,354 shares of common stock held by Wellington Management Group LLP. The shares of common stock are owned of record by clients of the Wellington Investment Advisers. Wellington Investment Advisers Holdings LLP controls directly, or indirectly through Wellington Management Global Holdings, Ltd., the Wellington Investment Advisers. Wellington Investment Advisers Holdings LLP is owned by Wellington Group Holdings LLP. Wellington Group Holdings LLP is owned by Wellington Management Group LLP. This report shall not be deemed an admission that any such entity or person is a beneficial owner of such securities for the purpose of Section 16 or for any other purpose.
- (15) This information is based solely on a Schedule 13D/A filed with the Securities and Exchange Commission on or about April 12, 2018. Consists of 2,029,996 shares of our common stock held of record by OPI VI. GP VI is the sole general partner of OPI VI, and Advisors is the sole managing member of GP VI. By virtue of such relationships, GP VI and Advisors may be deemed to have voting and investment power with respect to the securities held by OPI VI noted above and as a result may be deemed to have beneficial ownership over such securities. Advisors exercises this investment and voting power through a management committee comprised of Carl L. Gordon, Sven H. Borho and Jonathan T. Silverstein, each of whom disclaims beneficial ownership of the shares held by OPI VI. Each of GP VI and Advisors disclaims Section 16 beneficial ownership of the securities held by OPI VI, except to the extent of its or his pecuniary interest therein, if any. This report shall not be deemed an admission that any such entity or person is a beneficial owner of such securities for the purpose of Section 16 or for any other purpose.
- (16) This information is based solely on a Schedule 13G filed with the Securities and Exchange Commission on February 14, 2019. Consists of 1,334,179 shares of common stock held by Aquilo Capital Management, LLC. Aquilo Capital Management, LLC is an investment advisor that is registered under the Investment Advisors Act of 1940. Aquilo Capital Management, LLC, which serves as the general partner and investment manager to each of Aquilo Capital, L.P. and Aquilo Capital II, L.P. (collectively “the Funds”), may be deemed to be the beneficial owner of all shares of common stock held by the Funds. Marc Schneidman, as Managing Member of Aquilo Capital Management, LLC, with the power to exercise investment and voting discretion, may be deemed to be the beneficial owner of all shares of common stock held by the Funds. Pursuant to Rule 13d-4 under the Securities Exchange Act of 1934, as amended, each of the Funds and Mr. Schneidman expressly disclaim beneficial ownership over any of the securities held by Aquilo Capital Management, LLC.

## MANAGEMENT AND CORPORATE GOVERNANCE

### The Board of Directors

Our bylaws provide that our business is to be managed by or under the direction of our Board. Our Board is divided into three classes for purposes of election. One class is elected at each annual meeting of stockholders to serve for a three-year term. Our Board currently consists of eight members, classified into three classes as follows: (1) Aoife Brennan, Patricia Hurter and Richard P. Shea constitute a class with a term ending at the 2019 annual meeting; (2) Peter Barrett, Edward Mathers and Michael Powell constitute a class with a term ending at the 2020 annual meeting; and (3) Chau Khuong and Nick Leschly constitute a class with a term ending at the 2021 annual meeting.

On March 5, 2019, our Board accepted the recommendation of the Nominating and Governance Committee and voted to nominate Aoife Brennan, Patricia Hurter and Richard P. Shea for election at the annual meeting for a term of three years to serve until the 2022 annual meeting of stockholders, and until their respective successors have been elected and qualified or until such director's earlier death, resignation or removal.

Set forth below are the names of the persons nominated as directors and directors whose terms do not expire this year, their ages, their offices in the Company, if any, their principal occupations or employment for at least the past five years, the length of their tenure as directors and the names of other public companies in which such persons hold or have held directorships during the past five years. Additionally, information about the specific experience, qualifications, attributes or skills that led to our Board's conclusion at the time of filing of this proxy statement that each person listed below should serve as a director is set forth below:

<u>Name</u>	<u>Age</u>	<u>Position with the Company</u>
Aoife Brennan, MB, BCh, BAO, MMSc	43	President and Chief Executive Officer; Class I Director
Richard P. Shea	67	Class I Director
Patricia Hurter, Ph.D.	55	Class I Director
Peter Barrett, Ph.D.	66	Class II Director; Chairman of the Board
Edward Mathers	59	Class II Director
Michael Powell, Ph.D.	64	Class II Director
Chau Khuong	43	Class III Director
Nick Leschly	46	Class III Director

Our Board has reviewed the materiality of any relationship that each of our directors has with Synlogic, either directly or indirectly. Based upon this review, our Board has determined that the following members of the Board are "independent directors" as defined by the Nasdaq Stock Market: Patricia Hurter, Richard P. Shea, Peter Barrett, Edward Mathers, Michael Powell, Chau Khuong and Nick Leschly.

*Aoife Brennan, MB, BCh, BAO, MMSc.*, age 43, has served as President and Chief Executive Officer and a member of our Board since October 2018. In September 2016, Dr. Brennan served as Chief Medical Officer of Private Synlogic and was responsible for the oversight and direction of its clinical development strategy and operations. From May 2011 to August 2016, Dr. Brennan was Vice President and Head of the Rare Disease Innovation Unit at Biogen, a biotechnology company, where she was responsible for research and development of the Biogen rare disease portfolio, which involved programs ranging from pre-clinical to commercial, including the approval of ALPROLIX®, ELOCTATE® and SPINRAZA®. From 2008 to 2011, Dr. Brennan was director of clinical development at Tolerx, Inc., a start-up biotechnology company focusing on immunotherapy for Type 1 diabetes. Dr. Brennan serves on the board of directors of Ra Pharmaceuticals, Inc., a clinical stage publicly-traded biopharmaceutical company focused on the development of next-generation therapeutics for complement-mediated diseases. Dr. Brennan holds a medical degree from Trinity College Dublin, Ireland and completed her post-graduate training in internal medicine, endocrinology and metabolism at the Royal College of Physicians in Ireland. Additionally, she completed her post-doctoral training in clinical research and metabolism at the Beth

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Israel Deaconess Medical Center in Boston and is a graduate of the Harvard Medical School Scholars in Clinical Science Program. The Board has concluded that Dr. Brennan possesses specific attributes that qualify her to serve as a member of our Board, including the perspective and experience she brings as our Chief Executive Officer and Chief Medical Officer, which brings operational expertise to our Board.

*Richard P. Shea*, age 67, has served as a member of our Board since the Merger closed on August 28, 2017. Mr. Shea has served as the Chief Financial Officer of Syndax Pharmaceuticals, Inc. since February 2017. Mr. Shea previously served as a member of the Syndax Pharmaceuticals board of directors from January 2014 to February 2017. From July 2007 through December 2016, Mr. Shea served as Senior Vice President and Chief Financial Officer of Momenta Pharmaceuticals Inc., a publicly-traded biotechnology company, and was its Vice President and Chief Financial Officer since October 2003. Prior to joining Momenta, Mr. Shea served as Chief Operating Officer and Chief Financial Officer of Variagenics Inc., a publicly-traded pharmacogenomics company, that was merged with Hyseq Pharmaceuticals Inc., and as Vice President, Finance of Genetics Institute, Inc., a publicly-traded biotechnology company, which was acquired by Wyeth Pharmaceuticals, Inc., which was then acquired by Pfizer, Inc. Mr. Shea received an A.B. from Princeton University and an M.B.A. from the Public Management Program at Boston University. The Board has concluded Mr. Shea possesses specific attributes that qualify him to serve as a member of our Board, including his experience with the healthcare and pharmaceutical industries and his broad life sciences industry knowledge.

*Patricia Hurter, Ph.D.*, age 55, has served as a member of Synlogic's Board since February 2019. Dr. Hurter has been Senior Vice President at Vertex since 2011, during which time her responsibilities grew to include all CMC and preclinical development activities of Vertex's R&D portfolio, as well as the internal GMP manufacturing facility that provides drug substance and product for clinical development and commercial supply. From 2013 to 2014, she served as Interim Head of Global Regulatory Affairs at Vertex and oversaw the submission of the new drug application for Orkambi®, as well as several label expansions for Kalydeco®. She has played a leadership role in the development and commercialization of four transformative therapies for Vertex: Incivek®, Kalydeco®, Orkambi® and Symdeko®. Prior to joining Vertex, Dr. Hurter was Director, Formulation Design and Characterization for Merck where she was a key member of the early development team for Januvia®, a treatment for Type II diabetes. Dr. Hurter serves as a member of the Board of Trustees of Harvard Conservation Trust. She holds a Ph.D. in chemical engineering from the Massachusetts Institute of Technology, an M.S. in mechanical engineering from West Virginia University and earned a B.Sc. in chemical engineering, *cum laude*, from the University of KwaZulu-Natal in Durban, South Africa. The Board has concluded that Dr. Hurter possesses specific attributes that qualify her to serve as a member of our Board, including her experience in drug research and development, global regulatory affairs and GMP manufacturing.

*Peter Barrett, Ph.D.*, age 66, has served as Chairman of our Board since the Merger closed on August 28, 2017, and prior to that time served as the Chairman of the Private Synlogic board of directors since March 2014. Dr. Barrett joined Atlas Venture L.P., an early-stage venture capital fund, in 2002, and currently serves as a Partner. From 1998 to 2002, Dr. Barrett was Executive Vice President and Chief Business Officer of Celera Genomics Group (now Celera Corporation, a subsidiary of Quest Diagnostics), a biotechnology company, which he co-founded. From 1979 to 1998, Dr. Barrett held senior management positions at Perkin-Elmer Corporation, most recently serving as Vice President, Corporate Planning and Business Development. Dr. Barrett currently serves on the boards of directors of PerkinElmer, Inc., Zafgen, Inc. and several privately held companies. Dr. Barrett is a Senior Fellow at Harvard Business School and is the faculty chair of the key advisory board of the Blavatnik Fellowship Program. Dr. Barrett is a member of the research council at Boston Children's Hospital. Dr. Barrett holds a B.S. in Chemistry from Lowell Technological Institute (now the University of Massachusetts, Lowell) and a Ph.D. in Analytical Chemistry from Northeastern University. He also completed Harvard Business School's Management Development Program. The Board has concluded that Dr. Barrett possesses specific attributes that qualify him to serve as a member and chairman of the Board, including his extensive leadership, executive, managerial and business experience with life sciences companies, including experience in the formation, development and business strategy of multiple start-up companies in the life sciences sector.

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*Edward Mathers*, age 59, has served as a member of our Board since October 2012. Mr. Mathers previously served on the Private Synlogic board of directors since July 2014. Since 2008, Mr. Mathers has been a Partner at NEA, a private venture capital firm focusing on technology and healthcare investments. Mr. Mathers serves on the board of directors of the following publicly-traded pharmaceutical companies: ObsEva SA, Ra Pharmaceuticals, Inc. and Rhythm Pharmaceuticals, Inc. Mr. Mathers also serves on the board of directors of several privately held companies. From 2002 to 2008, Mr. Mathers served as Executive Vice President, Corporate Development and Venture at MedImmune, Inc., a biopharmaceutical company, and led its venture capital subsidiary, MedImmune Ventures, Inc. Before joining MedImmune in 2002, Mr. Mathers was Vice President, Marketing and Corporate Licensing and Acquisitions at Inhale Therapeutic Systems, a biotechnology company. Previously, Mr. Mathers spent 15 years at Glaxo Wellcome, Inc. (GlaxoSmithKline), a pharmaceutical company, where he held various sales and marketing positions. Mr. Mathers received a B.S. in Chemistry from North Carolina State University. The Board has concluded that Mr. Mathers possesses specific attributes that qualify him to serve as a member our Board, including his experience with the healthcare and pharmaceutical industries and his broad management experience.

*Michael Powell, Ph.D.*, age 64, has served as a member of our Board since October 2012. Dr. Powell previously served as Chairman of our Board from October 2012 until the Merger closed on August 28, 2017. Since 1997, Dr. Powell has been a General Partner of Sofinnova Ventures, a venture capital firm. Previously, Dr. Powell has held positions at Genentech, Inc., a biotechnology company, Cytel Inc., a research and development company, and Syntex Research Group, a pharmaceutical company. Dr. Powell currently serves on the board of directors of numerous privately-held companies. Dr. Powell is an Adjunct Professor at the University of Kansas. Dr. Powell is the Board President of the AIDS Vaccine Advocacy Coalition and serves on the advisory board of the Institute for the Advancement of Medical Innovation at the University of Kansas. Dr. Powell received a B.S. in Chemistry from Scarborough College, a Ph.D. in Physical Chemistry from the University of Toronto and completed his post-doctoral work in Bioorganic Chemistry at the University of California. The Board has concluded that Dr. Powell possesses specific attributes that qualify him to serve as a member of our Board, including his experience with the life sciences and pharmaceutical industries and the venture capital industry.

*Chau Khuong*, age 43, has served as a member of our Board since the Merger closed on August 28, 2017, and prior to that time served on the Private Synlogic board of directors since February 2016. Mr. Khuong has worked at OrbiMed Advisors LLC, a private equity and venture capital firm, since 2003 and is Private Equity Partner. Mr. Khuong gained experience in start-up operations and business development at Veritas Medicine, Inc., a healthcare company, and in basic science research at the Yale School of Medicine and Massachusetts General Hospital. Mr. Khuong currently serves as a director of the following publicly-traded companies: Aerpio Pharmaceuticals, Inc. and Pieris Pharmaceuticals, Inc. Mr. Khuong also serves on the board of directors of several privately held companies. Mr. Khuong holds a B.S. in Molecular, Cellular and Developmental Biology with concentration in Biotechnology and an M.P.H. with concentration in Infectious Diseases, both from Yale University. The Board has concluded that Mr. Khuong possesses specific attributes that qualify him to serve as a member of our Board, including his experience as an investor, particularly with respect to healthcare companies, and his broad life sciences industry knowledge. Mr. Khuong also has extensive experience overseeing the operations and research and development of biotechnology companies.

*Nick Leschly*, age 46, has served as a member of our Board since the Merger closed on August 28, 2017, and prior to that time served on the Private Synlogic board of directors since March 2016. Mr. Leschly has served as the President and Chief Executive Officer of bluebird bio, Inc. (“bluebird bio”), a publicly-traded clinical-stage biotechnology company, since September 2010. Previously, he served as the Interim Chief Executive Officer of bluebird bio from March 2010 to September 2010. Formerly a partner of Third Rock Ventures, L.P. (“Third Rock”) since its founding in 2007, Mr. Leschly played an integral role in the overall formation, development and business strategy of several of Third Rock’s portfolio companies, including Agios Pharmaceuticals, Inc. and Edimer Pharmaceuticals, Inc. Prior to joining Third Rock, he worked at Millennium Pharmaceuticals, Inc. (now a subsidiary of Takeda), leading several early-stage drug development programs and served as the product and

alliance leader for VELCADE®. Mr. Leschly also founded and served as Chief Executive Officer of MedXtend Corporation. He received his B.S. in Molecular Biology from Princeton University and his M.B.A. from Wharton Business School. He serves on the board of Biotechnology Innovation Organization (BIO) and Proclara Biosciences. He also serves on the advisory boards for Princeton University Molecular Biology Department and the Special Olympics of Massachusetts. The Board has concluded that Mr. Leschly possesses specific attributes that qualify him to serve as a member of our Board, including his experience in the venture capital industry and drug research and development.

### **Committees of the Board of Directors and Meetings**

**Meeting Attendance.** During the fiscal year ended December 31, 2018, Synlogic's Board held four meetings, and the various committees of the Board met a total of twelve times. All directors attended at least 75% of the total number of meetings of the Board and of committees of the Board on which he or she served during fiscal 2018. Synlogic's annual meeting was held on June 13, 2018 and five of Synlogic's six directors attended the meeting. We encourage our directors to attend the annual meeting.

**Audit Committee.** Synlogic's Audit Committee met seven times during fiscal 2018. This committee currently has three members, Richard P. Shea (Chairman), Peter Barrett and Michael Powell. Our Audit Committee's role and responsibilities are set forth in the Audit Committee's written charter and include the authority to retain and terminate the services of our independent registered public accounting firm. In addition, the Audit Committee reviews annual financial statements, considers matters relating to accounting policy and internal controls and reviews the scope of annual audits. All members of the Audit Committee satisfy the current independence standards promulgated by the Securities and Exchange Commission and by the Nasdaq Stock Market, as such standards apply specifically to members of audit committees. The Board has determined that Mr. Barrett is independent even though he falls outside the "safe harbor" definition set forth in Rule 10A-3(e)(1)(ii) under the Securities Exchange Act of 1934, as amended (the "Exchange Act") because Atlas Venture L.P. and its affiliates own in excess of 10% of our common stock. Among other things, the Board considered Mr. Barrett's history of service and the percentage of common stock held by others, and it determined that he is not an "affiliated person" of our company who would be ineligible to serve on the Audit Committee. The Board has determined that Mr. Shea is an "audit committee financial expert," as the Securities and Exchange Commission has defined that term in Item 407 of Regulation S-K. Please also see the report of the Audit Committee set forth elsewhere in this proxy statement.

A copy of the Audit Committee's written charter is publicly available on our website at [www.synlogictx.com](http://www.synlogictx.com).

**Compensation Committee.** Synlogic's Compensation Committee met three times during fiscal 2018. This committee currently has three members, Edward Mathers (Chairman), Chau Khuong and Nick Leschly. Our Compensation Committee's role and responsibilities are set forth in the Compensation Committee's written charter and includes reviewing, approving and making recommendations regarding our compensation policies, practices and procedures to ensure that legal and fiduciary responsibilities of the Board are carried out and that such policies, practices and procedures contribute to our success. Our Compensation Committee also administers our 2015 Equity Incentive Award Plan and 2017 Stock Incentive Plan. The Compensation Committee reviews and recommends policies relating to compensation and benefits of our officers and employees. The Compensation Committee reviews and recommends corporate goals and objectives relevant to compensation of our Chief Executive Officer and other executive officers, evaluates the performance of these officers in light of those goals and objectives and may approve the compensation of the executive officers, other than the Chief Executive Officer, whose compensation the Compensation Committee recommends to the Board, based on such evaluations. The Compensation Committee also recommends to the Board the issuance of stock options and other awards under our stock plans. The Board has delegated authority to our Chief Executive Officer to grant options to new hire employees as well as certain other employees in connection with their promotion who (i) are not then subject or who are reasonably expected to become subject to Section 16 of the Exchange Act, or (iii) persons

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then or who are reasonably expected to be “covered employees” for purposes of Section 162(m) of the Internal Revenue Code of 1986, as amended. The purpose of this delegation of authority is to enhance the flexibility of option administration within the Company and to facilitate the timely grant of options within specified limits approved by the Board. All members of the Compensation Committee qualify as independent under the definition promulgated by the Nasdaq Stock Market.

The Compensation Committee has the authority to directly retain the services of independent consultants and other experts to assist in fulfilling its responsibilities. The Compensation Committee has engaged the services of Radford, a business unit of Aon plc (“Radford”), a national executive compensation consulting firm, to review and provide recommendations concerning all of the components of the Company’s executive compensation program. Radford performs services solely on behalf of the Compensation Committee and has no relationship with the Company or management except as it may relate to performing such services. Radford assists the Committee in defining the appropriate market of the Company’s peer companies for executive compensation and practices and in benchmarking our executive compensation program against the peer group each year. Radford also assists the Committee in benchmarking our director compensation program and practices against those of our peers. In compliance with the SEC and the corporate governance rules of the Nasdaq Stock Market, Radford provided the Compensation Committee with a letter addressing each of the six independence factors. Their responses affirm the independence of Radford and the partners, consultants, and employees who service the Compensation Committee on executive compensation matters and governance issues.

A copy of the Compensation Committee’s written charter is publicly available on our website at [www.synlogictx.com](http://www.synlogictx.com).

**Nominating and Governance Committee.** Synlogic’s Nominating and Governance Committee met two times during fiscal 2018. This committee currently has three members, Michael Powell (Chairman), Peter Barrett and Patricia Hurter. Our Board has determined that all members of the Nominating and Governance Committee qualify as independent under the definition promulgated by the Nasdaq Stock Market. The Nominating and Governance Committee’s responsibilities are set forth in the Nominating and Governance Committee’s written charter and include:

- the identification of qualified candidates to become Board members consistent with criteria approved by the Board;
- the selection, or recommendation of selection to the Board regarding the selection, of nominees for election as directors at the next annual meeting of stockholders (or special meeting of stockholders at which directors are to be elected);
- the selection, or recommendation of selection to the Board regarding the selection, of candidates to fill any vacancies on the Board;
- the evaluation of and recommendation to the Board of any changes to the authorized size of the Board;
- the assignment and rotation of Board members to various Board committees;
- the review and recommendation to the Board of revisions to the Corporate Governance Guidelines;
- oversight of the evaluation of the Board and its various committees; and
- assistance with the selection of candidates for future executive officers as well the promotion and changes in position of incumbent executive officers.

Generally, our Nominating and Governance Committee considers candidates recommended by stockholders as well as from other sources such as other directors or officers, third party search firms or other appropriate sources. Once identified, the Nominating and Governance Committee will evaluate a candidate’s qualifications in accordance with our Corporate Governance Guidelines. Threshold criteria include: personal and professional integrity, ethics and values; experience in corporate management, such as serving as an officer or former officer

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of a publicly held company; strong finance experience; experience relevant to the Company's industry; experience as a board member or executive officer of another publicly held company; diversity of expertise and experience in substantive matters pertaining to the Company's business relative to other members of the Board; diversity of background and perspective, including with respect to age, gender, race, place of residence and specialized business or career experience relevant to the success of the Company; practical and mature business judgment, including the ability to make independent analytical inquiries; and any other relevant qualifications, attributes or skills. Our Nominating and Governance Committee has not adopted a formal diversity policy in connection with the consideration of director nominations or the selection of nominees. However, the Nominating and Governance Committee will consider issues of diversity among its members in identifying and considering nominees for director and strive where appropriate to achieve a diverse balance of backgrounds, perspectives, business and career experience on the Board and its committees.

If a stockholder wishes to propose a candidate for consideration as a nominee for election to the Board, it must follow the procedures described in our bylaws and in "Stockholder Proposals and Nominations for Director" at the end of this proxy statement. In general, persons recommended by stockholders will be considered in accordance with our Corporate Governance Guidelines. Any such recommendation should be made in writing to the Nominating and Governance Committee, care of our Secretary at our principal office and should be accompanied by the following information concerning each recommending stockholder and the beneficial owner, if any, on whose behalf the nomination is made:

- all information relating to such person that would be required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for election of directors in a contested election pursuant to Section 14(a) under the Exchange Act (including such proposed nominee's written consent to being named in the proxy statement as a nominee and to serving as a director if elected);
- certain biographical and share ownership information about the stockholder and any other proponent, including a description of any derivative transactions in the Company's securities;
- a description of certain arrangements and understandings between the proposing stockholder and any beneficial owner and any other person in connection with such stockholder nomination; and
- a statement whether or not either such stockholder or beneficial owner intends to deliver a proxy statement and form of proxy to holders of voting shares sufficient to carry the proposal.

The recommendation must also be accompanied by the following information concerning the proposed nominee:

- certain biographical information concerning the proposed nominee;
- all information concerning the proposed nominee required to be disclosed in solicitations of proxies for election of directors;
- certain information about any other security holder of the Company who supports the proposed nominee;
- a description of all relationships between the proposed nominee and the recommending stockholder or any beneficial owner, including any agreements or understandings regarding the nomination; and
- additional disclosures relating to stockholder nominees for directors, including completed questionnaires and disclosures required by our Bylaws.

A copy of the Nominating and Governance Committee's written charter, including its appendices, is publicly available on the Company's website at [www.synlogictx.com](http://www.synlogictx.com).

## **Board Leadership Structure and Role in Risk Oversight**

### **Leadership Structure of the Board**

Our Board has separated the positions of Chairman of the Board and Chief Executive Officer. Separating these positions allows our Chief Executive Officer to focus on our day-to-day business, while allowing the Chairman of our Board to lead the Board in its fundamental role of providing advice to and independent oversight of management. Our Board recognizes the time, effort and energy that the Chief Executive Officer is required to devote to such position in the current business environment, as well as the commitment required to serve as Chairman of our Board, particularly as the Board's oversight responsibilities continue to grow. While our bylaws and corporate governance guidelines do not require that the Chairman and Chief Executive Officer positions be separate, our Board believes that having separate positions and having an independent outside director serve as Chairman is the appropriate leadership structure for us and demonstrates our commitment to good corporate governance. However, our Board will continue to periodically review our leadership structure and may make such changes in the future as it deems appropriate.

### **Role of Board in Risk Oversight Process**

Risk assessment and oversight are an integral part of our governance and management processes. Our Board encourages management to promote a culture that incorporates risk management into our corporate strategy and day-to-day business operations. Management discusses strategic and operational risks at regular management meetings and conducts specific strategic planning and review sessions during the year that include a focused discussion and analysis of the risks facing us. Throughout the year, senior management reviews these risks with our Board at regular Board meetings as part of management presentations that focus on particular business functions, operations or strategies, and presents the steps taken by management to mitigate or eliminate such risks.

Our Board does not have a standing risk management committee, but rather administers this oversight function directly through the Board as a whole, as well as through various standing committees of the Board that address risks inherent in their respective areas of oversight. In particular, our Board is responsible for monitoring and assessing strategic risk exposure and the Audit Committee is responsible for overseeing our major financial risk exposures and the steps management has taken to monitor and control these exposures. The Audit Committee also monitors compliance with legal and regulatory requirements and considers and approves or disapproves any related-persons transactions. Our Nominating and Governance Committee monitors the effectiveness of our corporate governance. The Compensation Committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking.

### **Stockholder Communications to the Board**

Generally, stockholders who have questions or concerns should contact our Investor Relations department at (617) 639 9122. However, any stockholders who wish to address questions regarding our business directly with the Board, or any individual director, should direct his or her questions in writing to the Chairman of the Board at Synlogic, Inc., 301 Binney Street, Suite 402, Cambridge MA 02142. Communications will be distributed to the Board, or to any individual director or directors as appropriate, depending on the facts and circumstances outlined in the communications. Items that are unrelated to the duties and responsibilities of the Board may be excluded, such as:

- junk mail and mass mailings;
- resumes and other forms of job inquiries;
- surveys; and
- solicitations or advertisements.

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In addition, any material that is unduly hostile, threatening, or illegal in nature may be excluded, provided that any communication that is filtered out will be made available to any outside director upon request.

### **Executive Officers**

The following table sets forth certain information regarding our executive officers who are not also directors. We have employment agreements with each of our executive officers.

<u>Name</u>	<u>Age</u>	<u>Position</u>
Todd Shegog	54	Chief Financial Officer

*Todd Shegog*, age 54, joined Synlogic in September 2016 as Chief Financial Officer and is responsible for the oversight and direction of our financial strategy and management as well as facilities and information systems. From April 2014 to August 2016, Mr. Shegog served as senior vice president and chief financial officer at Forum Pharmaceuticals Inc., a pharmaceutical company, where he was responsible for finance, operations and information systems in support of the pursuit of innovative therapies for schizophrenia and Alzheimer's disease. From 1998 to March 2014, Mr. Shegog worked in a variety of roles at Millennium Pharmaceuticals, including as Senior Vice President and Chief Financial Officer from 2008 to 2014, where he was responsible for management of Millennium's financial resources, corporate planning, financial reporting and compliance. During his tenure at Millennium Pharmaceuticals, Mr. Shegog held key leadership roles supporting the early evolution of Millennium and its transformation from a genomics company to a fully-integrated drug developer, the approval and launch of its flagship oncology product, VELCADE®, and the \$8.8 billion acquisition of Millennium Pharmaceuticals by Takeda Pharmaceutical Co Ltd. Mr. Shegog began his career in healthcare at Genetics Institute, Inc. (now Pfizer), a biotechnology research and development company, in a variety of financial positions supporting its research and development organizations and was a member of the commercial operations team that supported the launch of BeneFIX®. Mr. Shegog holds an M.B.A. from the Tepper School of Management at Carnegie Mellon University and a bachelor's degree in electrical engineering from Lafayette College.

**EXECUTIVE OFFICER AND DIRECTOR COMPENSATION**

**Summary Compensation Table**

The following table presents information regarding the total compensation paid or accrued during the last two fiscal years for (1) our Chief Executive Officer, (2) our two next most highly compensated executive officers who earned more than \$100,000 during the fiscal year ended December 31, 2018 and were serving as executive officers as of such date and (3) the Company’s former Chief Executive Officer (collectively the “Named Executive Officers”).

	Year	Salary (\$)	Bonus 1 (\$)	Option Awards 2 (\$)	Non-Equity Incentive Plan Compensation 3 (\$)	All Other Compensation 4 (\$)	Total (\$)
Aoife M. Brennan, MB, BCh, BAO, MMSc 5 <i>President and Chief Executive Officer and Chief Medical Officer</i>	2018	450,849	—	1,480,487	186,200	—	2,117,536
	2017	349,036	—	744,339	111,412	—	1,204,115
Todd Shegog <i>Chief Financial Officer</i>	2018	366,488	—	314,177	103,300	—	783,965
	2017	349,036	—	652,293	111,412	—	1,112,741
Andrew Gengos 6 <i>Former Chief Operating Officer and Head of Corporate Development</i>	2018	401,980	—	65,454	121,559	—	588,992
	2017	90,571	100,000	1,479,840	34,268	—	1,704,679
Jose Carlos Gutierrez-Ramos, Ph.D. <i>Former President and Chief Executive Officer</i>	2018	194,158	—	788,978	—	402,975	1,386,111
	2017	440,385	202,944	1,433,894	176,000	—	2,251,164

- (1) The amount reported for Mr. Gengos represents a signing bonus received in connection with the commencement of employment. The amount reported for Dr. Gutierrez-Ramos represents a one-time special bonus to compensate Dr. Gutierrez-Ramos for the loss in value from his initial 2015 equity award due to the revised fair market value of the Company’s common stock as of the grant date.
- (2) The amounts reported represent the aggregate grant date fair value of option awards granted as estimated pursuant to FASB ASC 718, Compensation—Share based compensation (ASC 718). See Note 12 of the Company’s Annual Report on Form 10-K for the year ended December 31, 2018 for the assumptions used in calculating this amount.
- (3) The amounts reported represent bonuses paid based on the Board’s determination of achievement of pre-established performance criteria as outlined in each individual employment agreement for the years ended December 31, 2018 and 2017, as indicated.
- (4) The amount reported for Dr. Gutierrez-Ramos for 2018 represents the value of severance pursuant to Dr. Gutierrez-Ramos’s employment agreement in connection with his termination of employment effective May 10, 2018. Of the aggregate options granted to Dr. Gutierrez-Ramos in 2018 and 2017, 115,518 options granted in 2018 and 124,476 options granted in 2017 were forfeited in connection with his termination of employment.
- (5) Dr. Brennan’s 2018 option awards include equity grants outlined in her amended employment agreement in connection with appointment as interim President and Chief Executive Officer in May 2018 and promotion to President and Chief Executive Officer in October 2018.
- (6) Mr. Gengos commenced employment with the Company in October 2017 and salary and non-equity incentive plan compensation payments were prorated for this initial year of employment. Mr. Gengos’ employment with the Company terminated on January 15, 2019. See “—Terms and Conditions of Mr. Gengos’ Separation Agreement” below. Of the aggregate options granted to Mr. Gengos in 2018 and 2017, 7,920 options granted in 2018 and 105,876 options granted in 2017 were forfeited in connection with his termination of employment.

**Narrative Disclosure to Summary Compensation Table**

Historically, the Company’s executive compensation program has reflected our innovative and growth- oriented corporate culture and is designed to attract, retain and incentivize and align executives with both short- and long-term company objectives. To date, the compensation of the Company’s Chief Executive Officer and our other executive officers has consisted of a combination of base salary, cash bonuses and long-term incentive compensation paid in the form of equity. The named executive officers, like all full-time employees, are eligible to participate in the Company’s health and welfare benefit plans. The Company will continue to evaluate its compensation values and philosophy and compensation plans and arrangements as circumstances require. The Company will review executive compensation from time to time at the discretion of the Compensation Committee. As part of this review process, the Board and Compensation Committee will apply the values and philosophy, while considering the compensation levels needed to ensure the organization’s executive compensation program remains competitive and aligns incentives with the goals of the organization.

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### *Base Salary*

In March 2018, the Compensation Committee and the Board approved an annual increase in base salaries for certain employees resulting in an annual base salary of \$397,901 for Dr. Brennan, \$366,488 for Mr. Shegog, and \$401,980 for Mr. Gengos. In May 2018, the Board approved an annual increase in base salary for Dr. Brennan to \$474,701 in connection with her appointment as Interim President and Chief Executive Officer and in October 2018 an increase to \$490,000 in connection with her transition to President and Chief Executive Officer. In March 2019, the Compensation Committee and the Board approved base salary increases for certain members of the Company's management team effective January 1, 2019, resulting in an annual base salary of \$505,000 for Dr. Brennan and \$377,500 for Mr. Shegog.

### *Annual Bonuses*

The Company's employment agreements with its executive officers provide for the opportunity to earn a cash bonus based upon achievement of both corporate and individual goals determined by the Board based on a target percentage of annual base salary. In March 2019, the Board awarded Dr. Brennan a cash bonus of \$186,200, which represented 38.0% of her annual base salary, in recognition of her services provided in the year ended December 31, 2018 and in accordance with the terms of her amended employment agreement and bonus assessment. In March 2019, the Compensation Committee awarded Mr. Shegog a cash bonus of \$103,300, which represented 28.2% of his annual base salary in recognition of his services provided in the year ended December 31, 2018 and in accordance with the terms of his employment agreement and bonus assessment.

### *2019 Stock Awards*

In 2019, in connection with the Compensation Committee and the Board's assessment of 2018 performance, the Company granted the following options to its current named executive officers: Dr. Brennan was granted an option to purchase 185,000 shares of common stock and Mr. Shegog was granted an option to purchase 58,500 shares of common stock with each option having an exercise price of \$8.59 per share and subject to vesting at a rate of 1/48th of the total number of shares subject thereto per month over four years.

**Outstanding Equity Awards at Fiscal Year End**

The following table presents the outstanding equity awards held by each of the named executive officers as of December 31, 2018. All equity awards set forth in the table below were granted under the 2015 Stock Incentive Plan except for the awards with a grant date of May 15, 2017 which were granted under the 2017 Equity Incentive Award Plan.

		Grant Date	Option Awards				Stock Awards	
			Number of Securities Underlying Unexercised Options Exercisable (#)	Number of Securities Underlying Unexercised Options Unexercisable (#)	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (1) (\$)
Aoife M. Brennan, MB, BCh, BAO, MMSc <i>President and Chief Executive Officer and Chief Medical Officer</i>	(2)	5/15/2017	16,416	25,074	\$ 13.53	5/15/2027	22,656	158,819
	(3)	5/15/2017	23,848	18,565	\$ 13.53	5/15/2027		
	(4)	5/15/2017						
	(5)	3/14/2018	10,494	45,506	\$ 9.95	3/14/2028		
	(6)	6/5/2018	6,750	47,250	\$ 9.55	6/5/2028		
	(7)	10/31/2018	—	150,000	\$ 7.91	10/31/2028		
Todd Shegog <i>Chief Financial Officer</i>	(8)	5/15/2017	12,027	18,399	\$ 13.53	5/15/2027	22,863	160,270
	(9)	5/15/2017	24,065	18,738	\$ 13.53	5/15/2027		
	(10)	5/15/2017						
	(11)	3/14/2018	9,000	39,000	\$ 9.95	3/14/2028		
Andrew Gengos <i>Former Chief Operating Officer and Head of Corporate Development</i>	(12)	10/31/2017	44,916	109,084	\$ 14.71	10/31/2027		
	(13)	3/14/2018	1,872	8,128	\$ 9.95	3/14/2028		
Jose Carlos Gutierrez-Ramos, Ph.D. <i>Former President and Chief Executive Officer</i>		n/a	—	—	—	—	—	—

- (1) The market value of the stock awards is determined by multiplying the number of shares by \$7.01, the closing price of our common stock on the Nasdaq Global Market on December 31, 2018, the last trading day of our fiscal year.
- (2) Unvested shares under this option are scheduled to vest 1/48<sup>th</sup> each month through May 15, 2021.
- (3) Unvested shares under this option are scheduled to vest 1/48<sup>th</sup> each month through September 1, 2020.
- (4) Unvested restricted stock under this award vests 1/48<sup>th</sup> each month through September 1, 2020.
- (5) Unvested shares under this option are scheduled to vest 1/48<sup>th</sup> each month through March 14, 2022.
- (6) Unvested shares under this option are scheduled to vest 1/48<sup>th</sup> each month through June 5, 2022.
- (7) The option shall vest as to 25% of the shares on October 2, 2019 and the remainder shall vest 1/48<sup>th</sup> each month thereafter through October 2, 2022.
- (8) Unvested shares under this option are scheduled to vest 1/48<sup>th</sup> each month through May 15, 2021.
- (9) Unvested shares under this option are scheduled to vest 1/48<sup>th</sup> each month through September 1, 2020.
- (10) Unvested restricted stock under this award vests 1/48<sup>th</sup> each month through September 1, 2020.
- (11) Unvested shares under this option are scheduled to vest 1/48<sup>th</sup> each month through March 14, 2022.
- (12) Unvested shares under this option are scheduled to vest 1/48<sup>th</sup> each month through October 9, 2021.
- (13) Unvested shares under this option are scheduled to vest 1/48<sup>th</sup> each month through March 14, 2022.

**Synlogic Reorganization and Merger**

Synlogic, LLC completed a corporate reorganization from an LLC to a corporation on May 15, 2017. As part of the reorganization, equity incentive awards granted by Synlogic, LLC were converted into equity incentive awards for shares of Private Synlogic common stock. Common units of Synlogic, LLC were converted one for one into shares of Private Synlogic common stock and incentive units of Synlogic, LLC were converted into a number of shares of Private Synlogic common stock equal to (x) the value of the appreciation of such incentive units between the date of grant and immediately prior to the reorganization divided by (y) the value of a share of Private Synlogic common stock on the date of such reorganization. To the extent that such shares of Private Synlogic common stock were unvested, they remained Private Synlogic restricted stock. All shares of

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Private Synlogic restricted stock were issued under the Private Synlogic 2017 Stock Incentive Plan which was assumed by the Company in the Merger and continue to vest on the same schedule as the original restricted stock awards.

All equity awards set forth above are set forth on a post-Merger basis. Pursuant to the terms of the Merger Agreement and after giving effect to the 1:7 reverse stock split, at the effective time of the Merger (the “Effective Time”), each outstanding share of capital stock of Private Synlogic was converted into the right to receive approximately 0.5532 shares of Company common stock on a post-Merger basis (the “Exchange Ratio”). In addition, at the Effective Time, the Company assumed all outstanding options to purchase shares of common stock of Private Synlogic, which were exchanged for options to purchase shares of the Company’s common stock, in each case appropriately adjusted based on the Exchange Ratio and all shares of Private Synlogic restricted stock were exchanged for shares of Company common stock in accordance with the Exchange Ratio and continue to vest on the same schedule as the original restricted stock awards.

### ***Employment Agreements and Potential Payments Upon Termination of Employment or Change in Control***

The Company has entered into employment agreements with each of our named executive officers as described below, as well as standard confidential information and/or inventions assignment agreements under which each of the named executive officers has agreed not to disclose confidential information. These employment agreements provide for “at will” employment.

#### *Aoife M. Brennan, MB, BCh, BAO, MMSc*

We originally entered into an employment agreement with Dr. Brennan in June 2016 that initially provided for a base salary of \$345,000, subject to review and adjustment. Dr. Brennan’s base salary was subsequently increased to \$349,036 for 2017 and \$397,901 for 2018. Pursuant to the June 2017 amendment to the original employment agreement, Dr. Brennan was eligible to earn an annual cash incentive bonus of up to 30% of her base salary based on the achievement of corporate and/or individual performance goals, as determined by the Board. Dr. Brennan is also eligible to participate in the employee benefit plans available to employees, subject to the terms of those plans. In addition, Dr. Brennan’s original employment agreement, as amended, also provided her with a signing bonus of \$85,000, plus a gross up for taxes to be paid on such compensation in connection with her commencement of employment.

In connection with her appointment as Interim President and Chief Executive Officer, we entered into an amendment to Dr. Brennan’s employment arrangement in June 2018, pursuant to which Dr. Brennan received (i) an additional cash payment of \$6,400 per calendar month for the period which Dr. Brennan served as Interim President and Chief Executive Officer, (ii) a target bonus of 40% for the period which Dr. Brennan served as Interim President and Chief Executive Officer and (iii) a grant of an option to purchase an aggregate of 54,000 shares of the Company’s common stock at an exercise price of \$9.55 (the fair market value on the date of the grant) which option vests in equal monthly installments for 48 months.

In connection with her appointment as President and Chief Executive Officer in October 2018, we entered into an amended and restated employment arrangement with Dr. Brennan (the “Amended and Restated Employment Agreement”), pursuant to which Dr. Brennan was entitled to receive (i) an annual base salary of \$490,000 commencing as of October 2, 2018 (the “CEO Salary”), (ii) a target bonus of 40% of the CEO Salary and (iii) a one-time grant of an option to purchase an aggregate of 150,000 shares of common stock at an exercise price of \$7.91 (the fair market value on the date of the grant), which option will vest as to one-fourth of the shares on the first anniversary of Dr. Brennan’s start date as President and Chief Executive Officer and as to the remainder in equal monthly installments for the following 36 months, continuing for so long as Dr. Brennan continues to serve as the Company’s President and Chief Executive Officer. In March 2019, the Board, upon recommendation of the Compensation Committee, approved an increase in Dr. Brennan’s base salary to \$505,000, effective as of January 1, 2019, and an increase in the target annual cash bonus amount for 2019 for Dr. Brennan from 40% of base salary to 50% of base salary.

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The Amended and Restated Employment Agreement provides that, in the event that Dr. Brennan's employment is terminated for any reason other than for "cause," death or "disability," or by Dr. Brennan for "good reason" (each as defined in the Amended and Restated Employment Agreement), she will be entitled to receive (i) continuing severance pay at a rate equal to 100% of her base salary, as then in effect, for a period of 12 months from the date of such termination, to be paid periodically in accordance with normal Company payroll practices; (ii) the right to continue health care benefits under COBRA, paid by the Company until the earlier of (a) 12 months from termination, or (b) the date on which Dr. Brennan becomes eligible for healthcare insurance with a subsequent employer, and (iii) a lump-sum payment equal to the prorated portion of the target bonus for the fiscal year in which Dr. Brennan is terminated.

The Amended and Restated Employment Agreement provides that, in the event Dr. Brennan's employment is terminated on account of death, "disability," resignation for "good reason" or without "cause," in any case, within the 12-month period immediately following or the 30-day period immediately prior to a "change in control," then Dr. Brennan's outstanding unvested restricted stock and/or options shall become fully vested.

In addition, Dr. Brennan has entered into a non-solicitation and non-competition agreement that applies for 12 months following her employment.

### *Todd Shegog*

We entered into an employment agreement with Mr. Shegog in June 2016 that initially provided for a base salary of \$345,000, subject to review and adjustment. Mr. Shegog's base salary was increased to \$349,036 for 2017 and \$366,488 for 2018. In February 2019, Mr. Shegog's base salary was increased to \$377,500, effective as of January 1, 2019. Pursuant to the May 8, 2017 amendment to his employment agreement, Mr. Shegog was eligible to earn an annual cash incentive bonus of up to 30% of his base salary based on the achievement of corporate and/or individual performance goals, as determined by the Board. Mr. Shegog is also eligible to participate in the employee benefit plans available to employees, subject to the terms of those plans. In March 2019, the Compensation Committee approved an increase in the target annual cash bonus amount for 2019 for Mr. Shegog from 30% of base salary to 40% of base salary.

Mr. Shegog's employment agreement provides that, in the event that Mr. Shegog's employment is terminated for any reason other than for "cause," death or "disability," or by Mr. Shegog for "good reason" (each as defined in his employment agreement), he will be entitled to receive (i) continuing severance pay at a rate equal to 100% of his base salary, as then in effect, for a period of six months from the date of such termination, to be paid periodically in accordance with normal Company payroll practices; (ii) the right to continue health care benefits under COBRA, paid by the Company until the earlier of (a) six months from termination, or (b) the date on which Mr. Shegog becomes eligible for healthcare insurance with a subsequent employer, and (iii) a lump-sum payment equal to the prorated portion of the target bonus for the fiscal year in which Mr. Shegog is terminated.

Mr. Shegog's employment agreement provides that, in the event Mr. Shegog's employment is terminated on account of death, "disability," resignation for "good reason" or without "cause," in any case, within the 12-month period immediately following or the 30-day period immediately prior to a "change in control," then Mr. Shegog's outstanding unvested restricted stock and/or options shall become fully vested.

In addition, Mr. Shegog has entered into a non-solicitation and non-competition agreement that applies for 12 months following his employment.

The following definitions apply to Dr. Brennan's and Mr. Shegog's employment agreements:

"Cause" is defined as the executive's (i) conviction of a felony, plea of guilty or "no contest" to a felony, or confession of guilt to a felony, in each case whether or not in connection with the performance of the executive's

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duties to the Company; (ii) act or omission which constitutes willful misconduct or negligence that results in loss, damage or injury to the Company or its prospects, including, but not limited to (A) disloyalty, dishonesty or a breach of fiduciary duty to the Company or Stockholders, (B) theft, fraud, embezzlement or other illegal conduct, or (C) deliberate disregard of a rule or policy of the Company; (iii) failure, refusal or unwillingness to perform, to the reasonable satisfaction of the Board determined in good faith, any duty or responsibility assigned to the executive, which failure of performance continues for a period of more than two weeks after written notice thereof has been provided by the Board, setting forth in reasonable detail the nature of such failure of performance; or (iv) the material breach by the executive of any of the provisions of the employment agreement or its related agreements.

“Good reason” is defined as a resignation that occurs within 30 days following: (i) a change in the principal location at which the executive provides services to the Company beyond 50 miles from Cambridge, Massachusetts; (ii) a reduction in the executive’s compensation or a material reduction in the executive’s benefits, except such a reduction in connection with a general reduction in compensation or other benefits of all senior executives of the Company; (iii) a material breach of the executive’s employment agreement by the Company that has not been cured within 10 days after written notice thereof by the executive; or (iv) a failure by the Company to obtain the assumption of the employment agreement by any successor of the Company.

“Disability” is defined as the executive’s inability, due to physical or mental illness or disease, to perform the functions then performed by the executive for 180 consecutive days, accompanied by the likelihood, in the opinion of a physician chosen by the Company and reasonably acceptable to the executive, that the executive will be unable to perform such functions within the reasonably foreseeable future, provided that the foregoing definition shall not include a disability for which the Company is required to provide reasonable accommodation pursuant to the Americans with Disabilities Act or other similar statute or regulation.

“Change in control” is defined as (i) the sale of the Company by merger in which the stockholders in their capacity as such no longer own a majority of the outstanding equity securities of the Company (or its successor); (ii) any sale of all or substantially all of the assets or capital stock of the Company (other than in a spin-off or similar transaction) or (iii) any other acquisition of the business of the Company, as determined by the board of directors in its sole discretion. For the avoidance of doubt, in no event shall a bona fide equity or debt financing, including a financing in which greater than 50% of the Company’s outstanding equity securities are acquired by a third-party, be deemed a “change in control.”

### **Other Benefits**

Executive officers are eligible to participate in all of the Company’s employee benefit plans, including life insurance, medical, dental and vision, a 401(k)-retirement plan and a flex spending account plan. We also provide paid-time-off benefits to all similarly-situated employees.

### ***Terms and Conditions of Dr. Gutierrez-Ramos’s Separation Agreement***

On May 10, 2018, we entered into an agreement (the “Gutiérrez-Ramos Separation Agreement”) with Dr. Gutiérrez-Ramos related to his resignation as our President and Chief Executive Officer that provides Dr. Gutiérrez-Ramos the following severance and benefits: (i) continued payments of his base salary for 13 months following his cessation of employment; (ii) continued vesting of all of his outstanding equity awards in accordance with their terms through June 9, 2018; (iii) payment or reimbursement of COBRA premiums for Dr. Gutiérrez-Ramos for up to 13 months following his cessation of employment or until the date on which Dr. Gutiérrez-Ramos becomes eligible for healthcare insurance with a subsequent employer; and (iv) a lump-sum payment of \$83,592 equal to the prorated portion of Dr. Gutiérrez-Ramos’ target bonus for 2018. In addition, pursuant to the terms of the Gutiérrez-Ramos Separation Agreement, Dr. Gutiérrez-Ramos continued to vest in his previously granted restricted stock award grant dated May 14, 2015 until November 15, 2018.

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The Gutiérrez-Ramos Separation Agreement includes a release of claims by Dr. Gutiérrez-Ramos against us. In connection with the entry into the Gutiérrez-Ramos Separation Agreement, Dr. Gutiérrez-Ramos agreed that he would continue to be subject to the Invention and Non-Disclosure Agreement and the Non-Compete and Non-Solicitation Agreement between us and Dr. Gutiérrez-Ramos that contains a covenant protecting our confidential information.

### ***Terms and Conditions of Mr. Gengos' Separation Agreement***

On December 17, 2018, the Company entered into a separation agreement (the "Gengos Separation Agreement") with Mr. Gengos, pursuant to which Mr. Gengos' employment with the Company was terminated without cause as a result of his role at the Company being materially diminished. Pursuant to the terms of the Gengos Separation Agreement, Mr. Gengos was employed by the Company as its Chief Operating Officer and Head of Corporate Development through January 15, 2019.

Under the Gengos Separation Agreement, in exchange for a full general release of claims and continued compliance with the Invention and Nondisclosure Agreement and the Non-Competition and Non-Solicitation Agreement entered into between Mr. Gengos and the Company, which covers a period of 12 months following his employment, Mr. Gengos will receive: (i) continued payments of his base salary for six months following his cessation of employment; (ii) continued vesting of all of his outstanding equity awards in accordance with their terms through his cessation of employment; (iii) payment or reimbursement of COBRA premiums for Mr. Gengos for up to six months following his cessation of employment or until the date on which Mr. Gengos becomes eligible for healthcare insurance with a subsequent employer; and (iv)(a) a lump-sum payment amount of \$121,558.78 equal to Mr. Gengos' target bonus for 2018 and (b) a lump-sum payment amount of \$5,781.91 equal to Mr. Gengos' target bonus for 2019, pro-rated for 15 days.

**SYNOLOGIC DIRECTOR COMPENSATION**

The following table shows the total compensation paid or accrued during the fiscal year ended December 31, 2018 to each of our non-employee directors. Directors who are employed by us are not compensated for their service on our Board.

	<b>Fees Earned or Paid in Cash (\$)</b>	<b>Option Awards <sup>1</sup> (\$)</b>
Peter Barrett, Ph.D. <sup>2</sup>	76,259	58,487
Chau Khuong <sup>3</sup>	43,750	58,487
Nick Leschly <sup>4</sup>	40,000	58,487
Edward Mathers	45,000	58,487
Michael Powell, Ph.D.	50,000	58,487
Richard P. Shea	50,000	58,487

- (1) The amount reported represents the aggregate grant date fair value of option awards granted as estimated pursuant to FASB ASC 718, Compensation—Share based compensation (ASC 718). See Note 12 of the Company's Annual Report on Form 10-K for the year ended December 31, 2018 for the assumptions used in calculating this amount. Pursuant to the Amended and Restated Non-Employee Director Compensation Program each non-employee director was granted an option to purchase 10,000 shares of our common stock in June 2018.
- (2) Mr. Barrett elected to receive his 2018 compensation in the form of a stock grant pursuant to the Company's Amended and Restated Non-Employee Director Compensation Program. Mr. Barrett had 41,570 option awards outstanding at December 31, 2018.
- (3) Mr. Khuong, Mr. Mathers, Dr. Powell and Mr. Shea each had 30,000 option awards outstanding at December 31, 2018.
- (4) Mr. Leschly had 48,967 option awards and 23,150 restricted shares outstanding at December 31, 2018.

Pursuant to the Amended and Restated Non-Employee Director Compensation Program, our non-employee directors are entitled to receive cash compensation, paid quarterly in arrears, as follows:

- Each non-employee director receives an annual cash retainer in the amount of \$35,000 per year.
- Any non-employee Chairman receives an additional annual cash retainer in the amount of \$30,000 per year.
- The chairperson of the Audit Committee receives additional annual cash compensation in the amount of \$15,000 per year for such chairperson's service on the Audit Committee. Each non-chairperson member of the Audit Committee receives additional annual cash compensation in the amount of \$7,500 per year for such member's service on the Audit Committee.
- The chairperson of the Compensation Committee receives additional annual cash compensation in the amount of \$10,000 per year for such chairperson's service on the Compensation Committee. Each non-chairperson member of the Compensation Committee receives additional annual cash compensation in the amount of \$5,000 per year for such member's service on the Compensation Committee.
- The chairperson of the Nominating and Corporate Governance Committee receives additional annual cash compensation in the amount of \$7,500 per year for such chairperson's service on the Nominating and Corporate Governance Committee. Each non-chairperson member of the Nominating and Corporate Governance Committee receives additional annual cash compensation in the amount of \$3,750 per year for such member's service on the Nominating and Corporate Governance Committee.

Under the Amended and Restated Director Compensation Program, upon a director's initial appointment or election to our Board, such non-employee director will receive an option (the Initial Grant) to purchase

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20,000 shares of our common stock (subject to adjustment as provided in the applicable equity plan). In addition, each non-employee director who has been serving as a director for at least three months prior to any annual stockholder meeting and will continue to serve as a director immediately following such annual stockholder meeting will be automatically granted, on the date of such annual stockholder meeting, an option (the Annual Grant) to purchase 10,000 shares of our common stock (subject to adjustment as provided in the applicable equity plan). The Initial Grant will vest in substantially equal installments on each of the first three anniversaries of the applicable grant date, subject to continued service through each applicable vesting date, and the Annual Grant will vest in full on the earlier of the first anniversary of the applicable grant date or immediately prior to the next annual stockholder meeting after the applicable grant date, subject to continued service through such vesting date. In addition, pursuant to the terms of the Amended and Restated Director Compensation Program, all equity awards outstanding and held by a non-employee director will vest in full immediately prior to the occurrence of a change in control.

We reimburse our non-employee directors for all reasonable and customary business expenses incurred providing services to us in accordance with Company policy.

**EQUITY COMPENSATION PLAN INFORMATION**

The following table provides certain aggregate information with respect to all of the Company’s equity compensation plans in effect as of December 31, 2018.

<b>Plan category</b>	<b>(a)</b>	<b>(b)</b>	<b>(c)</b>
	<b>Number of securities to be issued upon exercise of outstanding options, warrants and rights</b>	<b>Weighted-average exercise price of outstanding options, warrants and rights</b>	<b>Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))</b>
Equity compensation plans approved by security holders (1)	1,331,005	\$ 11.42	121,724
Equity compensation plans not approved by security holders (2)	409,186	\$ 13.53	355,690
<b>Total</b>	<b>1,740,191</b>	<b>\$ 11.92</b>	<b>477,414</b>

- (1) Consists of the 2015 Equity Incentive Award Plan.  
(2) Consists of the Synlogic 2017 Stock Incentive Plan.

**Summary Description of the Company’s 2015 Equity Incentive Award Plan**

In August 2015, the Company adopted the Mirna 2015 Equity Incentive Award Plan (the “2015 Plan”). The terms of the 2015 Plan provide for the grant of stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards, deferred stock awards, dividend equivalent awards, stock payment awards, performance awards and other stock-based awards. Stock options may be granted under the 2015 Plan with an exercise price not less than 100% of the fair market value of the common stock on the date of grant. Stock options under the 2015 Plan may be granted with terms of up to ten years. The total number of shares of the Company’s common stock initially reserved for issuance under the 2015 Plan was equal to the sum of (i) 238,828 shares, plus (ii) any shares subject to awards under the Mirna Therapeutics, Inc. 2008 Long Term Incentive Plan that, on or after September 30, 2015, terminate, expire or lapse for any reason, up to a maximum of 116,951 shares. Additionally, the number of shares of common stock that may be issued under the 2015 Plan automatically increase on each January 1, beginning with January 1, 2016, and continuing until January 1, 2025 by an amount equal to the lesser of (i) 5% of the number of outstanding shares of common stock on that date and (ii) an amount determined by the Board; provided, however, that no more than 2,000,000 shares will be issued under the 2015 Plan as incentive stock options. As of December 31, 2018, 477,414 shares of common stock were available for future grants under the 2015 Plan.

**Summary Description of the Company’s Non-Stockholder Approved Equity Compensation Plan**

Private Synlogic adopted the Synlogic, Inc. 2017 Stock Incentive Plan (the “2017 Plan”) on May 11, 2017. The 2017 Plan will expire in 2027. Pursuant to the 2017 Reorganization, Private Synlogic issued restricted common stock awards under the 2017 Plan to replace the canceled incentive units pursuant to the termination of the 2015 LLC Plan. In addition, Private Synlogic also issued stock options to certain employees prior to the Merger. Pursuant to the Merger Agreement, each restricted common stock award of Private Synlogic under the 2017 Plan that was outstanding immediately prior to the Merger and each option to purchase common stock of Private Synlogic under the 2017 Plan that was outstanding and unexercised immediately prior to the Merger was converted into and became restricted common stock and options to purchase shares of the Company’s common stock, respectively, based on the merger exchange ratio of 0.5532. In connection with the Merger, the Company assumed the 2017 Plan. The Board is authorized to administer the 2017 Plan. In addition, the Board or any

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committee to which the Board delegates authority may, with the consent of the affected plan participants, re-price or otherwise amend outstanding awards consistent with the terms of the 2017 Plan.

Upon a merger, consolidation or sale of all or substantially all of our assets, the Board or any committee to which the Board delegates authority, or the Board of any corporation assuming our obligations, may, in its sole discretion, take any one or more of the following actions pursuant to the 2017 Plan, as to some or all outstanding awards, to the extent not otherwise agreed under any individual agreement provide that outstanding options will be assumed or substituted for options of the successor corporation; provide that the outstanding options must be exercised within a certain number of days, either to the extent the options are then exercisable, or at the Board's discretion, any such options being made partially or fully exercisable; terminate outstanding options in exchange for a cash payment of an amount equal to the difference between (a) the consideration payable upon consummation of the corporate transaction to a holder of the number of shares into which such option would have been exercisable to the extent then exercisable, or in the Board's discretion, any such options being made partially or fully exercisable, and (b) the aggregate exercise price of those options; provide that outstanding stock grants will be substituted for shares of the successor corporation or consideration payable with respect to our outstanding stock in connection with the corporate transaction; and terminate outstanding stock grants in exchange for payment of an amount equal to the consideration payable upon consummation of the corporate transaction to a holder of the same number of shares comprising the stock grant, to the extent the stock grant is no longer subject to any forfeiture or repurchase rights, or at the Board's discretion, all forfeiture and repurchase rights being waived upon the corporate transaction. For purposes of determining such payments, in the case of a corporate transaction the consideration for which, in whole or in part, is other than cash, the consideration other than cash shall be valued at the fair market value thereof as determined in good faith by the Board.

## REPORT OF AUDIT COMMITTEE

The Audit Committee of the Board, which consists entirely of directors who meet the independence and experience requirements of Nasdaq, has furnished the following report:

The Audit Committee assists the Board in overseeing and monitoring the integrity of our financial reporting process, compliance with legal and regulatory requirements and the quality of internal and external audit processes. This committee's role and responsibilities are set forth in our charter adopted by the Board, which is available on our website at [www.synlogictx.com](http://www.synlogictx.com). This committee reviews and reassesses our charter annually and recommends any changes to the Board for approval. The Audit Committee is responsible for overseeing our overall financial reporting process, and for the appointment, compensation, retention, and oversight of the work of KPMG LLP. In fulfilling its responsibilities for the financial statements for fiscal year 2018, the Audit Committee took the following actions:

- Reviewed and discussed the audited financial statements for the fiscal year ended December 31, 2018 with management and KPMG LLP, our independent registered public accounting firm;
- Discussed with KPMG LLP the matters required to be discussed in accordance with PCAOB Auditing Standard No. 1301- *Communications with Audit Committees*; and
- Received written disclosures and the letter from KPMG LLP regarding its independence as required by applicable requirements of the Public Company Accounting Oversight Board regarding KPMG LLP communications with the Audit Committee and the Audit Committee further discussed with KPMG LLP their independence. The Audit Committee also considered the status of pending litigation, taxation matters and other areas of oversight relating to the financial reporting and audit process that the committee determined appropriate.

Based on the Audit Committee's review of the audited financial statements and discussions with management and KPMG LLP, the Audit Committee recommended to the Board that the audited financial statements be included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 for filing with the SEC.

Members of the Synlogic Audit Committee  
Richard P. Shea, Peter Barrett, Michael Powell

## SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Our records reflect that all reports which were required to be filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, as amended, were filed on a timely basis.

## CERTAIN RELATIONSHIPS AND RELATED PERSON TRANSACTIONS

### *Indemnification Agreements*

We have entered into indemnification agreements with each of our directors and executive officers. These agreements, among other things, require us to indemnify each director and executive officer to the fullest extent permitted by Delaware law, including indemnification of expenses such as attorneys' fees, judgments, penalties, fines and settlement amounts incurred by the director or executive officer in any action or proceeding, including any action or proceeding by or in right of the Company, arising out of the person's services as a director or executive officer.

### *Change of Control and Severance Benefits Agreements*

See the section entitled "*Employment Agreements and Potential Payments Upon Termination of Employment or Change in Control*" in this proxy statement.

***Policies and Procedures for Related Party Transactions***

Our Board has adopted a written related person transaction policy setting forth the policies and procedures for the review and approval or ratification of related person transactions. This policy covers, with certain exceptions set forth in Item 404 of Regulation S-K under the Securities Act, any transaction, arrangement or relationship, or any series of similar transactions, arrangements or relationships in which we were or are to be a participant, where the amount involved exceeds \$120,000 and a related person had or will have a direct or indirect material interest, including, without limitation, purchases of goods or services by or from the related person or entities in which the related person has a material interest, indebtedness, guarantees of indebtedness and employment by us of a related person. In reviewing and approving any such transactions, our Audit Committee is tasked to consider all relevant facts and circumstances, including, but not limited to, whether the transaction is on terms comparable to those that could be obtained in an arm's length transaction with an unrelated third party and the extent of the related person's interest in the transaction.

## ELECTION OF DIRECTORS

### (Notice Item 1)

On March 5, 2019, the Board nominated Aoife Brennan, Richard P. Shea and Patricia Hurter for election at the annual meeting. The Board currently consists of eight members, classified into three classes as follows: Aoife Brennan, Patricia Hurter, and Richard P. Shea constitute a class with a term ending in 2019; Peter Barrett, Edward Mathers, and Michael Powell constitute a class with a term ending in 2020; Chau Khuong and Nick Leschly constitute a class with a term ending in 2021. At each annual meeting of stockholders, directors are elected for a full term of three years to succeed those directors whose terms are expiring.

The Board has voted to nominate Aoife Brennan, Patricia Hurter and Richard P. Shea for election at the annual meeting for a term of three years to serve until the 2022 Annual Meeting of Stockholders, and until their respective successors are elected and qualified. The Class II directors (Peter Barrett, Edward Mathers, and Michael Powell) and the Class III directors (Chau Khuong and Nick Leschly) will serve until the Annual Meetings of Stockholders to be held in 2020 and 2021, respectively, and until their respective successors have been elected and qualified.

Unless authority to vote for any of these nominees is withheld, the shares represented by the enclosed proxy will be voted **FOR** the election as directors of Aoife Brennan, Patricia Hurter, and Richard P. Shea. In the event that either nominee becomes unable or unwilling to serve, the shares represented by the enclosed proxy will be voted for the election of such other person as the Board may recommend in that nominee's place. We have no reason to believe that any nominee will be unable or unwilling to serve as a director.

A plurality of the shares voted for each nominee at the Meeting is required to elect each nominee as a director.

**THE BOARD RECOMMENDS THE ELECTION OF AOIFE BRENNAN, PATRICIA HURTER, AND RICHARD P. SHEA AS DIRECTORS, AND PROXIES SOLICITED BY THE BOARD WILL BE VOTED IN FAVOR THEREOF UNLESS A STOCKHOLDER HAS INDICATED OTHERWISE ON THE PROXY.**

**INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM****(Notice Item 2)**

The Audit Committee has appointed KPMG LLP, as our independent registered public accounting firm, to audit our financial statements for the fiscal year ending December 31, 2019. The Board proposes that the stockholders ratify this appointment. KPMG LLP audited our financial statements for the fiscal year ended December 31, 2018. We expect that representatives of KPMG LLP will be present at the annual meeting, will be able to make a statement if they so desire, and will be available to respond to appropriate questions.

In deciding to appoint KPMG LLP, the Audit Committee reviewed auditor independence issues and existing commercial relationships with KPMG LLP and concluded that KPMG LLP has no commercial relationship with the Company that would impair its independence for the fiscal year ending December 31, 2019.

The following table presents fees for professional audit services rendered by KPMG LLP for the audit of the Company's annual financial statements for the years ended December 31, 2018, and December 31, 2017, and fees billed for other services rendered by KPMG LLP during those periods.

	<u>2018</u>	<u>2017</u>
Audit fees: (1)	\$ 608,248	\$ 1,192,960
Audit related fees: (2)	—	—
Tax fees: (3)	42,500	46,000
All other fees: (4)	1,780	1,780
Total	<u>\$ 652,528</u>	<u>\$ 1,240,740</u>

- (1) Audit fees in 2018 and 2017 were for professional fees rendered for the audits of our financial statements, including accounting consultation, and reviews of quarterly financial statements, as well as for services that are normally provided in connection with regulatory filings or engagements, including comfort letters.
- (2) There were no audit related fees in 2018 or 2017.
- (3) Tax fees in 2018 and 2017 were for professional fees rendered for matters related to filing our federal and state tax returns, as well as documentation of our research and development credit and tax compliance and reporting.
- (4) All other fees in 2018 and 2017 consisted of a subscription to KPMG's online research tool.

**Policy on Audit Committee Pre-Approval of Audit and Permissible Non-audit Services of Independent Public Accountant**

Consistent with SEC policies regarding auditor independence, the Audit Committee has responsibility for appointing, setting compensation and overseeing the work of our independent registered public accounting firm. In recognition of this responsibility, the Audit Committee has established a policy to pre-approve all audit and permissible non-audit services provided by our independent registered public accounting firm.

Prior to engagement of an independent registered public accounting firm for the next year's audit, management will submit an aggregate of services expected to be rendered during that year for each of four categories of services to the Audit Committee for approval.

1. **Audit** services include audit work performed in the preparation of financial statements, as well as work that generally only an independent registered public accounting firm can reasonably be expected to provide, including comfort letters, statutory audits, and attestation services and consultation regarding financial accounting and/or reporting standards.

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2. **Audit-Related** services are for assurance and related services that are traditionally performed by an independent registered public accounting firm, including due diligence related to mergers and acquisitions, employee benefit plan audits, and special procedures required to meet certain regulatory requirements.

3. **Tax** services include all services performed by an independent registered public accounting firm's tax personnel except those services specifically related to the audit of the financial statements, and includes fees in the areas of tax compliance, tax planning, and tax advice.

4. **Other Fees** are those associated with services not captured in the other categories. The Company generally does not request such services from our independent registered public accounting firm.

Prior to engagement, the Audit Committee pre-approves these services by category of service. The fees are budgeted and the Audit Committee requires our independent registered public accounting firm and management to report actual fees versus the budget periodically throughout the year by category of service. During the year, circumstances may arise when it may become necessary to engage our independent registered public accounting firm for additional services not contemplated in the original pre-approval. In those instances, the Audit Committee requires specific pre-approval before engaging our independent registered public accounting firm.

The Audit Committee may delegate pre-approval authority to one or more of its members. The member to whom such authority is delegated must report, for informational purposes only, any pre-approval decisions to the Audit Committee at its next scheduled meeting.

In the event the stockholders do not ratify the appointment of KPMG LLP as our independent registered public accounting firm, the Audit Committee will reconsider its appointment.

**THE BOARD RECOMMENDS A VOTE TO RATIFY THE APPOINTMENT OF KPMG LLP AS OUR INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM, AND PROXIES SOLICITED BY THE BOARD WILL BE VOTED IN FAVOR OF SUCH RATIFICATION UNLESS A STOCKHOLDER INDICATES OTHERWISE ON THE PROXY.**

## **CODE OF BUSINESS CONDUCT AND ETHICS**

We have adopted a code of business conduct and ethics that applies to all of our employees, including our Chief Executive Officer and Chief Financial and Accounting Officers. The text of the code of business conduct and ethics is posted on our website at [www.synlogictx.com](http://www.synlogictx.com). Disclosure regarding any amendments to, or waivers from, provisions of the code of conduct and ethics that apply to our directors, principal executive and financial officers will be included in a Current Report on Form 8-K within four business days following the date of the amendment or waiver, unless website posting or the issuance of a press release of such amendments or waivers is then permitted by the rules of the Nasdaq Stock Market.

## **OTHER MATTERS**

The Board knows of no other business which will be presented to the annual meeting. If any other business is properly brought before the annual meeting, proxies will be voted in accordance with the judgment of the persons named therein.

## **STOCKHOLDER PROPOSALS AND NOMINATIONS FOR DIRECTOR**

To be considered for inclusion in the proxy statement relating to our 2020 Annual Meeting of Stockholders, we must receive stockholder proposals (other than for director nominations) no later than December 19, 2019. To be considered for presentation at the 2020 Annual Meeting, although not included in the proxy statement, proposals (including director nominations that are not requested to be included in our proxy statement) must be received no earlier than 120 days prior to the date that is one year from this year's meeting date and no later than 90 days prior to the date that is one year from this year's meeting date. Therefore, to be presented at our 2020 Annual Meeting of Stockholders, such a proposal must be received on or after February 5, 2020 but no later than March 6, 2020. Proposals that are not received in a timely manner will not be voted on at the 2020 Annual Meeting. If a proposal is received on time, the proxies that management solicits for the meeting may still exercise discretionary voting authority on the proposal under circumstances consistent with the proxy rules of the SEC. All stockholder proposals should be marked for the attention of Company Secretary, Synlogic, Inc., 301 Binney Street, Suite 402, Cambridge MA 02142.

Cambridge, MA  
April 18, 2019

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**SYNOLOGIC, INC.**  
**301 BINNEY ST, SUITE 402**  
**CAMBRIDGE, MA 02142**

**VOTE BY INTERNET - [www.proxyvote.com](http://www.proxyvote.com)**

Use the Internet to transmit your voting instructions and for electronic delivery of information up until 11:59 p.m. Eastern Daylight 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.

**ELECTRONIC DELIVERY OF FUTURE PROXY MATERIALS**

If you would like to reduce the costs incurred by our company in mailing proxy materials, you can consent to receiving all future proxy statements, proxy cards and annual reports electronically via e-mail or the Internet. To sign up for electronic delivery, please follow the instructions above to vote using the Internet and, when prompted, indicate that you agree to receive or access proxy materials electronically in future years.

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

Use any touch-tone telephone to transmit your voting instructions up until 11:59 p.m. Eastern Daylight 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:

E72311-P23680

KEEP THIS PORTION FOR YOUR RECORDS

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DETACH AND RETURN THIS PORTION ONLY

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

SYNOLOGIC, INC.

The Board of Directors recommends you vote FOR the following:

1. Election of Class I Directors

Nominees:

For Against Abstain

- |     |                                   |                          |                          |                          |
|-----|-----------------------------------|--------------------------|--------------------------|--------------------------|
| 1a. | Aoife Brennan, MB, BCh, BAO, MMSc | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 1b. | Patricia Hurter, Ph.D.            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 1c. | Richard P. Shea                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

For Against Abstain

2. Ratification of Appointment of KPMG LLP as Independent Registered Public Accounting Firm for Fiscal Year Ended December 31, 2019.

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

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

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Signature [PLEASE SIGN WITHIN BOX]

Date

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Signature (Joint Owners)

Date

**Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting:**  
The Notice and Proxy Statement and Annual Report are available at [www.proxyvote.com](http://www.proxyvote.com).

E72312-P23680

**SYNLOGIC, INC.**  
**Annual Meeting of Shareholders**  
**June 5, 2019 9:00 AM, EDT**  
**This proxy is solicited by the Board of Directors**

The shareholder(s) hereby appoint(s) Aoife Brennan and Todd Shegog, or either of them, as proxies, each with the power to appoint (his/her) substitute, and hereby authorizes them to represent and to vote, as designated on the reverse side of this ballot, all of the shares of Common Stock of SYNLOGIC, INC. that the shareholder(s) is/are entitled to vote at the Annual Meeting of Shareholders to be held at 9:00 AM, EDT on June 5, 2019, at 301 Binney Street, Suite 402, Cambridge, Massachusetts 02142, and any adjournment or postponement thereof.

**This proxy, when properly executed, will be voted in the manner directed herein. If no such direction is made, this proxy will be voted in accordance with the Board of Directors' recommendations.**

**Continued and to be signed on reverse side**