

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

SCHEDULE 14A

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

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material under §240.14a-12

AXCELLA HEALTH INC.

(Name of Registrant as Specified In Its Charter)

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

Payment of Filing Fee (Check the appropriate box):

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

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

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- Fee paid previously with preliminary materials.
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(1) Amount Previously Paid:

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

(3) Filing Party:

(4) Date Filed:

**AXCELLA HEALTH INC.****840 Memorial Drive
Cambridge, Massachusetts 02139****NOTICE OF 2021 ANNUAL MEETING OF STOCKHOLDERS
To be held May 20, 2021**

Notice is hereby given that the 2021 Annual Meeting of Stockholders, or Annual Meeting, of Axcella Health Inc., which will be a virtual-only meeting to be held on May 20, 2021 at 8:30 A.M. Eastern Time. The purpose of the virtual Annual Meeting is the following:

1. To elect four Class II directors to our board of directors, to serve until the 2024 annual meeting of stockholders and until his or her successor has been duly elected and qualified, or until his or her earlier death, resignation or removal;
2. To ratify the appointment of Deloitte & Touche LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2021; and
3. To transact any other business properly brought before the Annual Meeting or any adjournment or postponement of the Annual Meeting.

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

Only Axcella Health Inc. stockholders of record at the close of business on March 29, 2021, will be entitled to vote at the Annual Meeting and any adjournment or postponement thereof.

We are pleased to take advantage of Securities and Exchange Commission rules that allow companies to furnish their proxy materials over the Internet. We are mailing to our stockholders a Notice of Internet Availability of Proxy Materials, or Notice, instead of a paper copy of our proxy materials and our 2020 Annual Report to Stockholders, or 2020 Annual Report. The Notice contains instructions on how to access those documents and to cast your vote via the Internet. The Notice also contains instructions on how to request a paper copy of our proxy materials and our 2020 Annual Report. This process allows us to provide our stockholders with the information they need on a more timely basis, while reducing the environmental impact and lowering the costs of printing and distributing our proxy materials.

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

Our Annual Meeting will be held in a virtual-only format due to the continued public health impact of the coronavirus outbreak (COVID-19) and to support the health and well-being of our employees, stockholders and community. The virtual Annual Meeting can be accessed at the following link: www.meetingcenter.io/280410668. The password for the meeting is AXLA2021. To log in to the virtual Annual Meeting, you have two options: join as a "Guest" or join as a "Stockholder." If you were a stockholder as of the close of business on March 29, 2021, you are eligible to join the virtual Annual Meeting as a "Stockholder" and have the option to vote your shares or ask questions at the meeting.

To join the virtual Annual Meeting as a "Stockholder," you will be required to enter your control number. If you are a registered stockholder, the control number can be found on your proxy card or notice, or in the email you previously received. If you hold your shares through an intermediary, such as a bank

or broker, you must register in advance to obtain a control number. To register, you must submit proof of your proxy power (legal proxy) reflecting your Axcella Health Inc. holdings along with your name and email address to Computershare. Requests for registration should be labeled as “Legal Proxy” and directed to Computershare by forwarding the email from your bank or broker with the legal proxy, or by sending an image of your legal proxy to legalproxy@computershare.com. Requests for registration must be received no later than 5:00 p.m. Eastern Time on Friday, May 14, 2021. If you do not have your control number, you may attend as a “Guest” but will not have the option to vote your shares or ask questions at the virtual Annual Meeting.

By order of the board of directors,

/s/ WILLIAM HINSHAW

William Hinshaw
President and Chief Executive Officer

Cambridge, Massachusetts
April 5, 2021

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**AXCELLA HEALTH INC.****840 Memorial Drive
Cambridge, Massachusetts 02139****PROXY STATEMENT
FOR THE 2021 ANNUAL MEETING OF STOCKHOLDERS
TO BE HELD MAY 20, 2021**

This proxy statement contains information about the 2021 Annual Meeting of Stockholders, or the Annual Meeting, of Axcella Health Inc., which will be a virtual-only meeting held on May 20, 2021 at 8:30 A.M. Eastern Time. The board of directors of Axcella Health Inc. is using this proxy statement to solicit proxies for use at the virtual Annual Meeting. In this proxy statement, the terms “Axcella,” “we,” “us,” and “our” refer to Axcella Health Inc. The mailing address of our principal executive offices is Axcella Health Inc., 840 Memorial Drive, Cambridge, Massachusetts 02139.

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

We are mailing to our stockholders a Notice of Internet Availability of Proxy Materials, or Notice, on or about April 5, 2021.

We are an “emerging growth company” under applicable federal securities laws and therefore permitted to conform with certain reduced public company reporting requirements. As an emerging growth company, we provide in this proxy statement the scaled disclosure permitted under the Jumpstart Our Business Startups Act of 2012 (the JOBS Act). In addition, as an emerging growth company, we are not required to conduct votes seeking approval, on an advisory basis, of the compensation of our named executive officers or the frequency with which such votes must be conducted. We will remain an “emerging growth company” until the earliest of (i) the last day of the fiscal year following the fifth anniversary of our initial public offering in May 2019; (ii) the last day of the fiscal year in which our total annual gross revenue is equal to or more than \$1.07 billion; (iii) the date on which we have issued more than \$1 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the Securities and Exchange Commission.

**Important Notice Regarding the Availability of Proxy Materials for
the Annual Meeting of Stockholders to be Held on May 20, 2021:**

This proxy statement and our 2020 Annual Report to Stockholders, or 2020 Annual Report, are available for viewing, printing and downloading at <http://www.edocumentview.com/AXLA>.

A copy of our Annual Report on Form 10-K for the fiscal year ended December 31, 2020, as filed with the Securities and Exchange Commission (SEC) on March 17, 2021, except for exhibits, will be furnished without charge to any stockholder upon written request to Axcella Health Inc., 840 Memorial Drive, Cambridge, Massachusetts 02139, Attention: Corporate Secretary. This proxy statement and our Annual Report on Form 10-K for the fiscal year ended December 31, 2020 are also available on the SEC’s website at www.sec.gov.

AXCELLA HEALTH INC.
PROXY STATEMENT
FOR THE 2021 ANNUAL MEETING OF STOCKHOLDERS

GENERAL INFORMATION

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

We have elected to provide access to our proxy materials to our stockholders via the Internet. Accordingly, on or about April 5, 2021, we will begin mailing a Notice of Internet Availability of Proxy Materials, or Notice. Our proxy materials, including the Notice of 2021 Annual Meeting of Stockholders, this proxy statement and the accompanying proxy card or, for shares held in street name (i.e. held for your account by a broker or other nominee), a voting instruction form, and the 2020 Annual Report to Stockholders, or 2020 Annual Report, will be made available to stockholders on the Internet on or about the same date.

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

Pursuant to rules adopted by the Securities and Exchange Commission, or SEC, for most stockholders, we are providing access to our proxy materials over the Internet rather than printing and mailing our proxy materials. We believe following this process will expedite the receipt of such materials and will help lower our costs and reduce the environmental impact of our annual meeting materials. Therefore, the Notice was mailed to holders of record and beneficial owners of our common stock, \$0.001 par value per share, as of the record date starting on or about April 5, 2021. The Notice provides instructions as to how stockholders may access and review our proxy materials, including the Notice of 2021 Annual Meeting of Stockholders, this proxy statement, the proxy card and our 2020 Annual Report, on the website referred to in the Notice or, alternatively, how to request that a copy of the proxy materials, including a proxy card, be sent to them by mail. The Notice also provides voting instructions. In addition, stockholders of record may request to receive the proxy materials in printed form by mail or electronically by e-mail on an ongoing basis for future stockholder meetings. Please note that, while our proxy materials are available at the website referenced in the Notice, and our Notice of 2021 Annual Meeting of Stockholders, this proxy statement and our 2020 Annual Report are available on our website, no other information contained on either website is incorporated by reference in or considered to be a part of this proxy statement.

Who is soliciting my vote?

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

When is the record date for the Annual Meeting?

The record date for determination of stockholders entitled to vote at the Annual Meeting is the close of business on March 29, 2021.

How many votes can be cast by all stockholders?

There were 37,690,435 shares of our common stock, par value \$0.001 per share, outstanding as of the close of business on March 29, 2021, all of which are entitled to vote with respect to all matters to be acted upon at the virtual Annual Meeting. Each stockholder of record is entitled to one vote for each share of our common stock held by such stockholder. None of our shares of undesignated preferred stock were outstanding as of March 29, 2021.

How do I vote?

If you are a stockholder of record, you can vote in one of the following ways:

- **Via the virtual Annual Meeting website.** You may vote during the virtual Annual Meeting by visiting www.meetingcenter.io/280410668. The password for the meeting is AXLA2021. Please have your 15-digit control number to join the virtual Annual Meeting.

- **By Internet.** You can vote by proxy over the Internet by following the instructions provided in the Notice. In order to be counted, proxies submitted by Internet must be received by the cutoff time of 11:59 p.m. Eastern Time on Wednesday, May 19, 2021.
- **By Mail.** If you requested printed copies of the proxy materials by mail, you can vote by mailing your proxy as described in the proxy materials. Proxies submitted by mail must be received before the start of the virtual Annual Meeting.
- **By Telephone.** You may vote using a touch-tone telephone by calling 1-800-652-VOTE (8683). You will need the 15-digit control number included on your Notice. Votes submitted by telephone must be received by 11:59 p.m. Eastern Time on Wednesday, May 19, 2021.

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

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

How do I revoke my proxy?

You may revoke your proxy by (1) following the instructions on the Notice and entering a new vote by mail that we receive before the start of the virtual Annual Meeting or over the Internet by the cutoff time of 11:59 p.m. Eastern Time on Wednesday, May 19, 2021, (2) attending and voting at the virtual Annual Meeting (although attendance at the virtual Annual Meeting will not in and of itself revoke a proxy), or (3) by filing an instrument in writing revoking the proxy or another duly executed proxy bearing a later date with our Corporate Secretary. Any written notice of revocation or subsequent proxy card must be received by our Corporate Secretary prior to the taking of the vote at the virtual Annual Meeting. Such written notice of revocation or subsequent proxy card should be hand delivered to our Corporate Secretary or sent to our principal executive offices at Axcella Health Inc., 840 Memorial Drive, Cambridge, Massachusetts 02139, Attention: Corporate Secretary.

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

How is a quorum reached?

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

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

How is the vote counted?

Under our bylaws, any proposal other than an election of directors is decided by a majority of the votes properly cast for and against such proposal, except where a larger vote is required by law or by our

Restated Certificate of Incorporation, or certificate of incorporation, or bylaws. Abstentions and broker “non- votes” are not included in the tabulation of the voting results on any such proposal and, therefore, do not have an impact on such proposals. A broker “non- vote” occurs when a nominee holding shares for a beneficial owner does not vote on a particular proposal because the nominee does not have discretionary voting power with respect to that item, and has not received instructions from the beneficial owner.

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

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

Who pays the cost for soliciting proxies?

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

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

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

In addition, any stockholder proposal intended to be included in the proxy statement for the next annual meeting of our stockholders in 2022 must also satisfy the requirements of SEC Rule 14a-8 under the Securities Exchange Act of 1934, as amended, or the Exchange Act, and be received no later than January 20, 2022. If the date of the annual meeting is moved by more than 30 days from the date contemplated at the time of the previous year’s proxy statement, then notice must be received within a reasonable time before we begin to print and send proxy materials. If that happens, we will publicly announce the deadline for submitting a proposal in a press release or in a document filed with the SEC.

How can I know the voting results?

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

OVERVIEW OF PROPOSALS

This proxy statement contains two proposals requiring stockholder action. Proposal 1 requests the election of four Class II Directors to the board of directors. Proposal 2 requests the ratification of the appointment of Deloitte & Touche LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2021. Each of the proposals is discussed in more detail in the pages that follow.

PROPOSAL NO. 1 — ELECTION OF CLASS II DIRECTOR

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

- the Class I directors are David R. Epstein and William D. Baird III, and their terms will expire at the annual meeting of stockholders to be held in 2023;
- the Class II directors are Gary Pisano, Ph.D., Grégory Behar, Cristina M. Rondinone, Ph.D. and Shreeram Aradhya, M.D. and their terms will expire at the Annual Meeting; and
- the Class III directors are William Hinshaw, Stephen Hoge, M.D., and Catherine A. Sohn, PharmD., and their terms will expire at the annual meeting of stockholders to be held in 2022.

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

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

Our board of directors has nominated Grégory Behar, Gary Pisano, Ph.D., Cristina M. Rondinone, Ph.D. and Shreeram Aradhya, M.D. for election as the Class II directors at the virtual Annual Meeting. These nominees are presently directors, and have indicated a willingness to continue to serve as directors, if elected. If the nominees become unable or unwilling to serve, however, the proxies may be voted for a substitute nominee selected by our board of directors.

Nominees for Election as Class II Director

The following table identifies our director nominees, and sets forth their principal occupation and business experience during the last five years and their age as of April 5, 2021.

Name	Positions and Offices Held with Axcella	Director Since	Age
Gary Pisano, Ph.D.	Director	2011	59
Grégory Behar	Director	2016	51
Cristina M. Rondinone, Ph.D.	Director	2018	60
Shreeram Aradhya, M.D.	Director	2020	58

Gary Pisano, Ph.D., has served as a member of our board of directors since October 2011. Dr. Pisano is the Harry E. Figgie, Jr. Professor of Business Administration and Senior Associate Dean for Faculty Development at the Harvard Business School. He has served on the Harvard faculty since 1988. Dr. Pisano's research and teaching focus on technology and operations strategy, the management of innovation and intellectual property, and competitive strategy. For more than two decades, he has consulted extensively on these issues with companies in the pharmaceutical, biotechnology, medical device, specialty chemical and healthcare industries. He has previously served as a director of Axovant Sciences Ltd. (Nasdaq: AXON) and Patheon NV (NYSE: PTHN). Dr. Pisano holds a Ph.D. in business administration from the University of California, Berkeley and a B.A. in economics from Yale University. We believe that Dr. Pisano's knowledge of business administration, innovation, and strategy, particularly within the healthcare industry, qualifies him to serve on our board of directors.

Grégory Behar has served as a member of our board of directors since February 2016. Mr. Behar has also served as Chief Executive Officer of Nestlé Health Science S.A., a health sciences company, since October 2014. He currently serves on the board of directors of Seres Therapeutics, Inc. (Nasdaq: MCRB).

Mr. Behar holds an M.B.A. from INSEAD in France, a M.S. in mechanical engineering and manufacturing from EPFL in Switzerland, and a B.S. in mechanical engineering from the University of California, Los Angeles. We believe that Mr. Behar’s extensive business experience in the health sciences and pharmaceutical industries qualifies him to serve on our board of directors.

Cristina M. Rondinone, Ph.D., has served as a member of our board since June 2018. Since June of 2020, Dr. Rondinone has consulted for pharmaceutical and biotechnology companies at CMR Pharma Consulting. Dr. Rondinone has served as President of Cellarity Inc. from September 2019 to June 2020. Prior to this position, from March 2011 to September 2019, Dr. Rondinone served in roles of increasing responsibility at MedImmune, LLC, a wholly owned subsidiary of AstraZeneca, most recently as Senior Vice President R&D, Head of Cardiovascular, Renal and Metabolic Diseases Innovative Medicines and Early Development. Dr. Rondinone holds a Docent in molecular medicine from the University of Goteborg, Sweden School of Medicine and a M.Sc. and Ph.D. in biological sciences from the University of Buenos Aires. We believe that Dr. Rondinone’s extensive industry experience qualifies her to serve on our board of directors.

Shreeram Aradhye, M.D., has served as a member of our board of directors since September 2020. He joined Dicerna in September 2020 as Executive Vice President and Chief Medical Officer. From April 2019 through August 2020, Dr. Aradhye served as Chief Development Officer at Axcella. Prior to joining Axcella, Dr. Aradhye spent approximately 17 years at Novartis Pharmaceuticals Corporation, a pharmaceutical company, most recently serving as Chief Medical Officer and Global Head of Medical Affairs, and approximately two years at Sandoz Pharmaceuticals as Head of Global Clinical Development and Medical Affairs. Prior to industry, Dr. Aradhye was Assistant Professor of Medicine and a transplant nephrologist at the University of Pennsylvania. He received his medical education at the All India Institute of Medical Sciences in New Delhi, India, and studied Internal Medicine and Nephrology in the United States. We believe that Dr. Aradhye’s extensive clinical development experience and hands-on experience with Axcella’s product candidates qualify him to serve on our board of directors.

Vote Required and Board of Directors’ Recommendation

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

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

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

The board of directors recommends voting “FOR” the election of Grégory Behar, Gary Pisano, Ph.D., Cristina M. Rondinone, Ph.D., and Shreeram Aradhye, M.D., as the Class II directors, to serve for a three-year term ending at the annual meeting of stockholders to be held in 2024.

Directors Continuing in Office

The following table identifies our directors, and sets forth their principal occupation and business experience during the last five years and their ages as of April 5, 2021.

Name	Positions and Offices Held with Axcella	Director Since	Class and Year in Which Term Will Expire	Age
David R. Epstein	Director	2017	Class I – 2023	59
William D. Baird III	Director	2018	Class I – 2023	49
William Hinshaw	Director, Chief Executive Officer	2018	Class III – 2022	52
Stephen Hoge, M.D.	Director	2014	Class III – 2022	45
Catherine A. Sohn, PharmD.	Director	2019	Class III – 2022	68

Class I Directors (Term Expires at 2023 Annual Meeting)

David R. Epstein has served as our Chairman and as a member of our board of directors since December 2017. Mr. Epstein has also served as Executive Partner at Flagship Pioneering Inc., a biotechnology venture creation firm, since January 2017. From January 2010 to July 2016, Mr. Epstein served as Chief Executive Officer of Novartis Pharmaceuticals Corporation, a pharmaceutical company. He currently serves on the boards of directors of Evelo Biosciences, Inc. (Nasdaq: EVLO) and of Rubius Therapeutics, Inc. (Nasdaq: RUBY), as Executive Chairman. Mr. Epstein holds an M.B.A. in finance and marketing from Columbia Business School and a B.S. in pharmacy from Rutgers University. We believe that Mr. Epstein's extensive experience serving in executive roles in the life sciences industry and leading the development and commercialization of numerous therapeutics qualifies him to serve on our board of directors.

William D. Baird III has served as a member of our board of directors since June 2018. He joined bluebird bio, Inc. as Chief Financial Officer in February 2019 and previously served as Chief Financial Officer of Amicus Therapeutics, Inc., a pharmaceutical company, from April 2012 to December 2018. Mr. Baird holds an M.B.A. in finance from The Wharton School of the University of Pennsylvania and a B.S.F.S. in international affairs from the Edmund A. Walsh School of Foreign Service of Georgetown University. We believe Mr. Baird's broad experience in pharmaceutical finance and executive management roles qualifies him to serve on our board of directors.

Class III Directors (Term Expires at 2022 Annual Meeting)

William Hinshaw has served as our President and Chief Executive Officer and as a member of our board of directors since June 2018. Prior to joining us, Mr. Hinshaw served in increasing roles of responsibility at Novartis Pharmaceuticals Corporation, a pharmaceutical company, from December 2003 until November 2017, most recently as the Executive Vice President and Head of U.S. Oncology. Mr. Hinshaw holds a B.S. in molecular biology from the University of Wisconsin. We believe that Mr. Hinshaw's qualifications, attributes and skills, including his experience in operations management and executive leadership qualify him to serve on our board of directors.

Stephen Hoge, M.D., has served as a member of our board of directors since May 2014. He has also served in roles of increasing responsibility at Moderna Therapeutics, Inc., a biopharmaceutical company, since December 2012, and currently serves as President. Dr. Hoge holds an M.D. from the University of California, San Francisco and a B.A. in neuroscience from Amherst College. We believe that Dr. Hoge's medical knowledge and extensive experiences in the biopharmaceutical industry as a management consultant and executive qualify him to serve on our board of directors.

Catherine A. Sohn, PharmD., has served as a member of our board of directors since August 2019. Since January 2011, Dr. Sohn has consulted for pharmaceutical, biotechnology, medical device and consumer healthcare companies in the areas of business strategy, business development, strategic product development and commercial launch at Sohn Health Strategies, LLC, which she founded and serves as President. Dr. Sohn serves on the board of directors of Jazz Pharmaceuticals plc (Nasdaq: JAZZ), Landec Corporation

(Nasdaq: LNDC) and Rubius Therapeutics (Nasdaq: RUBY), and she is non-executive chair of BioEclipse Therapeutics, a privately held biotechnology company. Dr. Sohn previously served on the board of Neuralstem, Inc. (Nasdaq: CUR). From 1982 to 2010, Dr. Sohn spent 28 years at GlaxoSmithKline plc and its predecessor companies, SmithKline Beecham and SK&F, serving most recently as Senior Vice President from 2003 until 2010. From 1994 to 1998 she was Vice President of Worldwide Strategic Product Development for Cardiovascular, Pulmonary and Metabolic Therapeutic Areas. Dr. Sohn received a PharmD. from the University of California, San Francisco, and a Certificate of Professional Development from the Wharton School at the University of Pennsylvania. She also is a Certified Licensing Professional Emeritus and is a Board Leadership Fellow of the National Association of Corporate Directors (NACD). We believe that Dr. Sohn is qualified to serve on our board of directors because of her experience with product development, strategic marketing and business development transactions in the pharmaceutical industry.

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

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

Executive Officers Who Are Not Directors

The following table identifies our executive officers, and sets forth their current positions at Axcella and their ages as of April 5, 2021. Biographical information for Mr. Hinshaw, our Chief Executive Officer, is set forth under the heading “Directors Continuing in Office” above.

Name	Position Held with Axcella	Officer Since	Age
Manu Chakravarthy, M.D., Ph.D. ⁽¹⁾	Executive Vice President of Clinical Development, Chief Medical Officer	2017	47
Paul Fehlner, J.D., Ph.D.	Senior Vice President, Chief Legal Officer and Corporate Secretary	2018	57
Laurent Chardonnet	Senior Vice President, Chief Financial Officer	2019	56
Alison Schecter, M.D. ⁽¹⁾	President of Research and Development	2021	57

(1) Manu Chakravarthy resigned from Axcella effective March 5, 2021. On March 3, 2021, Axcella announced the appointment of Alison D. Schecter, M.D., as the company’s President of Research and Development. In this role, Dr. Schecter will oversee all of the company’s research, product candidate design, clinical and regulatory efforts, including the duties previously performed by Dr. Chakravarthy.

Manu Chakravarthy, M.D., Ph.D., served as our Executive Vice President of Clinical Development, Chief Medical Officer from September 2020 to March 2021 and previously served as our Senior Vice President of Clinical Development and Chief Medical Officer from August 2017 to September 2020. Prior to joining us, Dr. Chakravarthy served as the Global Head of Innovation Strategy and External R&D in diabetes and cardiovascular research at Eli Lilly & Company, from August 2015 to June 2017. Previously, Dr. Chakravarthy spent more than seven years at Merck & Co., from September 2008 to August 2015, where he assumed positions of increasing responsibility and leadership within the company, most recently as a Distinguished Scientist and leader of the Discovery Medicine group for diabetes and cardiometabolic diseases within Translational Medicine. He is also Board certified in Internal Medicine and Endocrinology, Diabetes & Metabolism and was an Adjunct Clinical Assistant Professor of Medicine at the Rutgers School of Medicine, New Jersey. Dr. Chakravarthy holds an M.D. from the University of Texas Houston Medical School, a Ph.D. in cell biology and physiology from the University of Texas Graduate School of Biomedical Sciences and the MD Anderson Cancer Center and a B.A. in biology and chemistry from St. John’s University.

Paul Fehlner, J.D., Ph.D., has served as our Senior Vice President, Chief Legal Officer and Corporate Secretary since September 2020 and previously served as our Senior Vice President and Chief Intellectual

Property Officer from April 2018 to September 2020. In addition, Dr. Fehlner has served as a Principal at Life Sciences Innovation LLC, a consulting firm that he founded, since December 2017. From November 2008 through November 2017, Dr. Fehlner served as Global Head of Intellectual Property at Novartis Pharma AG in Basel, Switzerland. Dr. Fehlner holds a J.D. from Fordham University School of Law, a Ph.D. in immunology and biochemistry from The Rockefeller University and a B.S. in chemistry from Haverford College.

Laurent Chardonnet has served as our Senior Vice President and Chief Financial Officer since November 2019. Prior to joining us, Mr. Chardonnet served in various positions at Incyte Corporation, including Vice President, Treasurer and Principal Accounting Officer; Head of Finance and Administration for the company's European division; and most recently, as Vice President of Alliances. Prior to Incyte, Mr. Chardonnet served as Controller, Vice President of Finance and acting Chief Financial Officer of DrugAbuse Sciences, a privately held biotechnology company, and as a senior consultant at PricewaterhouseCoopers LLP. Mr. Chardonnet received his Master of Business Administration from Vanderbilt University and his initial business degree from the Institut Supérieur de Gestion in Paris.

Alison Schecter, M.D., has served as our President of Research and Development since March 2021. Prior to joining us, she served as Chief Medical Officer at Selecta Biosciences, Inc. and as Global Project Head, Rare Diseases at Sanofi-Genzyme. Prior to this, Dr. Schecter was Global Program Head at Baxalta, where she was instrumental in obtaining multinational approvals for the company's hemophilia drug candidates. Earlier, she also held roles in translational medicine, cardiovascular and metabolism product innovation at the Johnson & Johnson Innovation Center and the Novartis Institutes of Biomedical Research (NIBR). Dr. Schecter started her career in academia as Associate Professor in Immunology and Medicine and co-founder and co-director of the Cardiovascular Research Institute at the Icahn School of Medicine at Mount Sinai. She is a boarded cardiologist and internist who completed an Internal Medicine residency at The Johns Hopkins Hospital, a Cardiology fellowship at Massachusetts General Hospital and a Research Fellowship at Mount Sinai School of Medicine. Dr. Schecter earned her medical degree from SUNY Downstate Health Sciences University.

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

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

**PROPOSAL NO. 2 — RATIFICATION OF THE APPOINTMENT OF DELOITTE & TOUCHE LLP
AS AXCELLA'S INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR THE
FISCAL YEAR ENDING DECEMBER 31, 2021**

Axcella's stockholders are being asked to ratify the appointment by the audit committee of the board of directors of Deloitte & Touche LLP as Axcella's independent registered public accounting firm for the fiscal year ending December 31, 2021. Deloitte & Touche LLP has served as Axcella's independent registered public accounting firm since 2012.

The audit committee is solely responsible for selecting Axcella's independent registered public accounting firm for the fiscal year ending December 31, 2021. Stockholder approval is not required to appoint Deloitte & Touche LLP as Axcella's independent registered public accounting firm. However, the board of directors believes that submitting the appointment of Deloitte & Touche LLP to the stockholders for ratification is good corporate governance. If the stockholders do not ratify this appointment, the audit committee will reconsider whether to retain Deloitte & Touche LLP. If the selection of Deloitte & Touche LLP is ratified, the audit committee, at its discretion, may direct the appointment of a different independent registered public accounting firm at any time it decides that such a change would be in the best interest of Axcella and its stockholders.

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

Axcella incurred the following fees from Deloitte & Touche LLP for the audit of the consolidated financial statements and for other services provided during the years ended December 31, 2020 and 2019.

	2020	2019
Audit fees ⁽¹⁾	\$380,320	\$355,250
Audit-related fees ⁽²⁾	205,461	436,424
Tax fees	—	—
All other fees ⁽³⁾	1,895	1,895
Total fees	\$587,676	\$793,569

- (1) Audit fees consist of fees for the audit of our annual financial statements and the review of our interim financial statements included in our quarterly reports on Form 10-Q.
- (2) Audit-related fees include services provided in connection with registration statements, consents and other services typically provided by the independent registered public accounting firm. Audit-related fees in 2020 include the registration statement for the public offering of our common stock which was completed in May 2020; and our at-the-market offering that was initiated in June 2020.
- (3) All other fees include a subscription to the Deloitte Accounting Research Tool.

Audit Committee Pre-approval Policy and Procedures

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

From time to time, our audit committee may pre-approve specified types of services that are expected to be provided to us by our independent registered public accounting firm during the next 12 months. Any such pre-approval details the particular service or type of services to be provided and is also generally subject to a maximum dollar amount.

During our 2020 and 2019 fiscal years, no services were provided to us by Deloitte & Touche LLP other than in accordance with the pre-approval policies and procedures described above.

Vote Required and Board of Directors' Recommendation

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

The board of directors recommends voting "FOR" Proposal No. 2 to ratify the appointment of Deloitte & Touche LLP as Axcella's independent registered public accounting firm for the fiscal year ending December 31, 2021.

CORPORATE GOVERNANCE

Director Nomination Process

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

The process followed by our nominating and corporate governance committee to identify and evaluate director candidates includes requests to board members and others for recommendations, meetings from time to time to evaluate biographical information and background material relating to potential candidates, and interviews of selected candidates by management, recruiters, members of the committee and our board. While we do not have a formal policy with respect to diversity, our nominating and corporate governance committee believes that it is essential that the members of our board represent diverse viewpoints. Our nominating and corporate governance committee believes that the backgrounds and qualifications of our directors, considered as a group, should provide a composite mix of experience, knowledge and abilities that will allow our board to promote our strategic objectives and fulfill its responsibilities to our stockholders, and considers diversity of gender, race, national origin, education, professional experience, and differences in viewpoints and skills when evaluating proposed director candidates. The qualifications, qualities and skills that our nominating and corporate governance committee believes must be met by a committee-recommended nominee for a position on our board of directors are as follows:

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

Stockholders may recommend individuals to the nominating and corporate governance committee for consideration as potential director candidates. Any such proposals should be submitted to our corporate secretary at our principal executive offices no later than the close of business on the 90th day nor earlier than the close of business on the 120th day prior to the one-year anniversary of the date of the preceding year's annual meeting and should include appropriate biographical and background material to allow the nominating and corporate governance committee to properly evaluate the potential director candidate and the number of shares of our stock beneficially owned by the stockholder proposing the candidate. Stockholder proposals should be addressed to Axcella Health Inc., 840 Memorial Drive, Cambridge, Massachusetts 02139, Attention: Corporate Secretary. Assuming that biographical and background material has been provided on a timely basis in accordance with our bylaws, any recommendations received from stockholders will be evaluated in the same manner as potential nominees proposed by the nominating and corporate governance committee. If our board of directors determines to nominate a stockholder-recommended candidate and recommends his or her election, then his or her name will be included on our proxy card for the next annual meeting of stockholders. See "Stockholder Proposals" for a discussion of submitting stockholder proposals.

Director Independence

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

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

Our board of directors has determined that all members of the board of directors, except Mr. Hinshaw, Dr. Aradhye and Mr. Epstein, are independent directors, including for purposes of the rules of Nasdaq and the SEC. In making such independence determination, our board of directors considered the relationships that each non-employee director has with us and all other facts and circumstances that our board of directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director. In considering the independence of the directors listed above, our board of directors considered the association of our directors with the holders of more than 5% of our common stock. There are no family relationships among any of our directors or executive officers. Mr. Hinshaw is not an independent director under these rules because he is an executive officer of Axcella. Dr. Aradhye is not an independent director under these rules because he was an employee of Axcella until August 2020. Mr. Epstein is not an independent director under these rules because of the compensation he receives for non-director services pursuant to his Chairman and Consulting Agreement with Axcella, dated August 22, 2019, as discussed under “Director Compensation.”

Board Committees

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

Audit Committee

William D. Baird III, Grégory Behar and Gary Pisano, Ph.D., serve on the audit committee, which is chaired by Mr. Baird. Our board of directors has determined that each member of the audit committee is “independent” for audit committee purposes as that term is defined in the rules of the SEC and the applicable Nasdaq rules, and each has sufficient knowledge in financial and auditing matters to serve on the audit committee. Our board of directors has designated Mr. Baird as an “audit committee financial expert,” as defined under the applicable rules of the SEC. During the fiscal year ended December 31, 2020, the audit committee met four times. The report of the audit committee is included in this proxy statement under “Report of the Audit Committee.” The audit committee’s responsibilities include:

- appointing, approving the compensation of, and assessing the independence of our independent registered public accounting firm;
- pre-approving auditing and permissible non-audit services, and the terms of such services, to be provided by our independent registered public accounting firm;

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

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

Compensation Committee

Stephen Hoge, M.D., William D. Baird III, and Catherine A. Sohn, PharmD., serve on the compensation committee, which is chaired by Dr. Hoge. Our board of directors has determined that each member of the compensation committee is “independent” as defined in the applicable Nasdaq rules. During the fiscal year ended December 31, 2020, the compensation committee met six times. The compensation committee’s responsibilities include:

- annually reviewing and recommending to the board of directors the corporate goals and objectives relevant to the compensation of our Chief Executive Officer;
- evaluating the performance of our Chief Executive Officer in light of such corporate goals and objectives and based on such evaluation: (i) recommending to the board of directors the cash compensation of our Chief Executive Officer and (ii) recommending grants and awards to our Chief Executive Officer under equity-based plans;
- reviewing and approving the cash compensation of our other executive officers;
- reviewing and establishing our overall management compensation, philosophy and policy;
- overseeing and administering our compensation and similar plans;
- evaluating and assessing potential and current compensation advisors in accordance with the independence standards identified in the applicable Nasdaq rules;
- reviewing and approving our policies and procedures for the grant of equity-based awards;
- reviewing and recommending to the board of directors the compensation of our directors;
- preparing the compensation committee report required by SEC rules, if and when required, to be included in our annual proxy statement; and
- reviewing and approving the retention, termination or compensation of any consulting firm or outside advisor to assist in the evaluation of compensation matters.

Nominating and Corporate Governance Committee

Catherine A. Sohn, PharmD., and Cristina Rondinone, Ph.D., serve on the nominating and corporate governance committee, which is chaired by Dr. Sohn. Our board of directors has determined that both of the members of the nominating and corporate governance committee are “independent” as defined in the applicable Nasdaq rules. During the fiscal year ended December 31, 2020, the nominating and corporate governance committee met three times. The nominating and corporate governance committee’s responsibilities include:

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

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

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

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

or as director nominees for election to the board of directors by our stockholders each year in the class of directors whose term expires at the relevant annual meeting.

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

Board and Committee Meetings Attendance

The full board of directors met ten times during 2020. During 2020, each member of the board of directors attended in person or participated in 75% or more of the aggregate of (i) the total number of meetings of the board of directors (held during the period for which such person has been a director) and (ii) the total number of meetings held by all committees of the board of directors on which such person served (during the periods that such person served).

Director Attendance at Annual Meeting of Stockholders

Directors are responsible for attending the annual meeting of stockholders to the extent practicable. All members of the board of directors then in office attended the annual meeting of stockholders on May 20, 2020.

Policy on Trading, Pledging and Hedging of Company Stock

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

Code of Business Conduct and Ethics

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

Board Leadership Structure and Board's Role in Risk Oversight

David R. Epstein is the current Chairman of our board of directors and William Hinshaw is our current Chief Executive Officer, hence the roles of Chairman of our board of directors and Chief Executive Officer are separated. We believe that separating these positions allows our Chief Executive Officer to focus on our day-to-day business, while allowing our Chairman of the board to lead the board of directors in its fundamental role of providing advice to and independent oversight of management. Our board of directors recognizes the time, effort and energy that the Chief Executive Officer is required to devote to his position in the current business environment, as well as the commitment required to serve as our Chairman,

particularly as the board of directors' oversight responsibilities continue to grow. While our bylaws and corporate governance guidelines do not require that our Chairman and Chief Executive Officer positions be separate, our board of directors believes that having separate positions is the appropriate leadership structure for us at this time and demonstrates our commitment to good corporate governance.

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

The role of the board of directors in overseeing the management of our risks is conducted primarily through committees of the board of directors, as disclosed in the descriptions of each of the committees above and in the charters of each of the committees. The full board of directors (or the appropriate board committee in the case of risks that are under the purview of a particular committee) discusses with management our major risk exposures, their potential impact on us, and the steps we take to manage them. When a board committee is responsible for evaluating and overseeing the management of a particular risk or risks, the chairman of the relevant committee reports on the discussion to the full board of directors during the committee reports portion of the next board meeting. This enables the board of directors and its committees to coordinate the risk oversight role, particularly with respect to risk interrelationships.

Communication with the Directors of Axcella

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

c/o Axcella Health Inc.
840 Memorial Drive
Cambridge, Massachusetts 02139
United States

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

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

Communications may be forwarded to other directors if they relate to important substantive matters and include suggestions or comments that may be important for other directors to know. In general, communications relating to corporate governance and long-term corporate strategy are more likely to be forwarded than communications relating to ordinary business affairs, personal grievances, and matters as to which we tend to receive repetitive or duplicative communications.

The audit committee oversees the procedures for the receipt, retention, and treatment of complaints received by Axcella regarding accounting, internal accounting controls, or audit matters, and the confidential, anonymous submission by employees of concerns regarding questionable accounting, internal accounting controls, or auditing matters.

DIRECTOR COMPENSATION

The table below shows all compensation paid to each individual who served as non-employee member of our board of directors during 2020 for their services as directors in 2020, other than Mr. Hinshaw. Amounts paid to Mr. Hinshaw are presented below in the Summary Compensation Table.

Name	Fees Paid In Cash (\$)	Option Awards \$(⁽¹⁾)	All Other Compensation (\$)	Total (\$)
Shreeram Aradhye, M.D.	11,667	69,335	314,858 ⁽²⁾	395,860
William D. Baird III	62,500	28,891	—	91,391
Grégory Behar	42,500	28,891	—	71,391
David R. Epstein	150,000 ⁽³⁾	275,747	300,000 ⁽⁴⁾	725,747
Stephen Hoge, M.D.	45,852	28,891	—	74,743
Gary Pisano, Ph.D.	42,500	28,891	—	71,391
Cristina M. Rondinone, Ph.D.	39,000	28,891	—	67,891
Catherine A. Sohn, PharmD.	47,750	28,891	—	76,641

- (1) The amounts reported represent the aggregate grant date fair value of the stock options awarded to the non-employee directors in the fiscal year ended December 31, 2020, calculated in accordance with Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) Topic 718. Such grant date fair values do not take into account any estimated forfeitures. The assumptions used in calculating the grant date fair value of the stock options reported in this column are set forth in Note 9 to our audited Consolidated Financial Statements included in our Annual Report on Form 10-K for the year ended December 31, 2020. The amounts reported in this column reflect the accounting cost for these stock options and do not correspond to the actual economic value actually received by the non-employee directors or that may be received by the non-employee directors upon the exercise of the stock options or any sale of the underlying shares of common stock. For Mr. Epstein, the awards underlying these amounts represent all option awards issued to Mr. Epstein, including the option award issued to Mr. Epstein in 2020 in consideration for consulting services rendered pursuant to the Chairman and Consulting Agreement described in more detail below. In addition to his annual option grant, in 2020 Mr. Epstein was granted a supplemental option to purchase 6,800 shares to make up for options that were inadvertently excluded from a prior grant.
- (2) The amount reported includes the compensation paid to Dr. Aradhye for his services to the Company as an employee between January 1, 2020 and August 31, 2020. During this period Dr. Aradhye served the Company as its Chief Development Officer.
- (3) The amount reported includes a \$150,000 retainer payment to Mr. Epstein approved by the compensation committee for services as Chairman of the board of directors.
- (4) The amount reported represents \$300,000 in cash payments made to Mr. Epstein in consideration for consulting services rendered pursuant to the Chairman and Consulting Agreement described in more detail below.

As of December 31, 2020, each non-employee director held unexercised options to purchase the number of shares of the Company's common stock as set forth below:

Directors	Option Awards ⁽¹⁾	
	Exercisable (#)	Unexercisable (#)
Shreeram Aradhya, M.D.	1,833	20,167
William D. Baird III	42,891	30,140
Grégory Behar	11,000	11,000
David R. Epstein ⁽²⁾	771,682	228,764
Stephen Hoge, M.D.	65,288	11,000
Gary Pisano, Ph.D.	92,433	11,000
Cristina M. Rondinone, Ph.D.	39,834	28,310
Catherine A. Sohn, PharmD.	9,165	23,835

- (1) The amounts reported represent the aggregate number of unexercised options to purchase shares of the Company's common stock held by each non-employee director, including awards granted prior to the completion of the Company's IPO in May of 2019.
- (2) For Mr. Epstein, the awards underlying these amounts represent all option awards issued to Mr. Epstein, including the option awards issued to Mr. Epstein in consideration for consulting services rendered pursuant to the Chairman and Consulting Agreement described in more detail below.

Non-Employee Director Compensation

Under our director compensation program, we pay our non-employee directors a cash retainer for service on the board of directors and for service on each committee on which the director is a member. The chairman of each committee receives a higher retainer for such service. These fees are payable in arrears in four equal quarterly installments on the last day of each quarter, provided that the amount of such payment is prorated for any portion of such quarter that the director is not serving on our board of directors. The annual retainer paid to the chairman of the board is \$150,000. The fees paid to non-employee directors, other than our chairman, for service on the board of directors and for service on each committee of the board of directors on which the director is a member are as follows:

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

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

In addition, each new non-employee director elected to our board of directors will be granted an initial, one-time equity award of an option to purchase 22,000 shares of our common stock, which shall

vest in equal quarterly installments during the 12 quarters following the grant date, subject to continued service as a director through such vesting date. On the date of each annual meeting of stockholders of Axcella, each non-employee director will receive an annual equity award of an option to purchase 11,000 shares of common stock, which shall vest on the earlier of the one-year anniversary of the grant date and Axcella's next annual meeting of stockholders, subject to continued service as a director through such vesting date.

This program is intended to provide a total compensation package that enables us to attract and retain qualified and experienced individuals to serve as directors and to align our directors' interests with those of our stockholders.

On August 21, 2019, David R. Epstein entered into a Chairman and Consulting Agreement with Axcella (the "Epstein Agreement") pursuant to which Mr. Epstein has agreed to serve as Chairman of the Board and to provide certain consulting services to Axcella. In exchange for his services as chairman of the Board, Mr. Epstein receives an annual base retainer of \$150,000 and an annual option to purchase 35,000 shares of Axcella's common stock. In exchange for his consulting services, Mr. Epstein receives an annual base retainer of \$300,000 and an annual option to purchase 65,000 shares of Axcella's common stock, subject to periodic review and adjustment at Axcella's discretion. The Chairman and Consulting Agreement also contains customary non-competition and confidentiality obligations.

Securities Authorized for Issuance under Equity Compensation Plans

The following table sets forth information as of December 31, 2020 regarding shares of common stock that may be issued under our equity compensation plans.

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (#)	Weighted-average Exercise Price of Outstanding Options, Warrants and Rights (\$)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in First Column) (#)
Equity compensation plans approved by security holders ⁽¹⁾	5,267,547 ⁽²⁾	\$5.95	1,365,174 ⁽³⁾⁽⁴⁾
Equity compensation plans not approved by security holders	—	—	—
Total	5,267,547	\$5.95	1,365,174

(1) Includes the Axcella Health Inc. Amended and Restated 2010 Stock Incentive Plan (the "2010 Plan"), the Axcella Health Inc. 2019 Stock Option and Incentive Plan (the "2019 Plan") and the Axcella Health Inc. 2019 Employee Stock Purchase Plan (the "2019 Employee Stock Purchase Plan").

(2) Includes 4,919,960 of common stock issuable upon the exercise of outstanding stock options and 347,587 shares of common stock issuable upon settlement of restricted stock units

(3) As of December 31, 2020, there were 936,148 shares available for grant under the 2019 Plan and 429,026 shares available for grants under the 2019 Employee Stock Purchase Plan. As of the closing of our initial public offering, no additional equity awards may be granted under the 2010 Plan. The shares of common stock underlying any awards granted under the 2010 Plan or 2019 Plan that are forfeited, canceled, reacquired by us prior to vesting, satisfied without the issuance of stock, or otherwise terminated (other than by exercise) and the shares of common stock that are withheld upon exercise of a stock option or settlement of such award to cover the exercise price or tax withholding will be added to the shares of common stock available for issuance under the 2019 Plan.

(4) The 2019 Plan provides that an additional number of shares will automatically be added to the shares authorized for issuance under the 2019 Plan on January 1 of each year. The number of shares added each year will be equal to the lesser of: (i) 4% of the outstanding shares on the immediately preceding December 31 or (ii) such amount as determined by the compensation committee of our board of directors. The 2019 Employee Stock Purchase Plan provides that an additional number of shares will

automatically be added to the shares authorized for issuance under the 2019 Employee Stock Purchase Plan on January 1 of each year through January 1, 2029. The number of shares added each year will be equal to the least of: (i) 1% of the outstanding shares on the immediately preceding December 31, (ii) 237,181 shares or (iii) such amount as determined by the compensation committee of our board of directors.

EXECUTIVE COMPENSATION

Our named executive officers for the year ended December 31, 2020 include our chief executive officer, chief financial officer, and our chief medical officer:

- William Hinshaw, our chief executive officer;
- Laurent Chardonnet, our chief financial officer; and
- Manu Chakravarthy, M.D. Ph.D., our chief medical officer.

Summary Compensation Table

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

Name	Year	Salary (\$)	Bonus (\$)	Stock Awards (\$) ⁽¹⁾	Option Awards (\$) ⁽¹⁾	Non-Equity Incentive Plan Compensation (\$) ⁽²⁾	All Other Compensation (\$)	Total (\$)
William Hinshaw <i>President and CEO</i>	2020	517,500	—	703,500 ⁽³⁾	418,531	286,000	8,550 ⁽⁴⁾	1,934,081
	2019	496,731	—	—	560,049	288,750	—	1,345,530
Laurent Chardonnet <i>Senior Vice President and Chief Financial Officer</i>	2020	375,000	—	—	55,509 ⁽⁵⁾	151,875	49,189 ⁽⁶⁾	631,573
	2019	38,462	—	—	160,977 ⁽⁵⁾	—	3,000 ⁽⁷⁾	202,439
Manu Chakravarthy, M.D., Ph.D. ⁽⁹⁾ <i>Executive Vice President of Clinical Development, Chief Medical Officer</i>	2020	415,392	300,000 ⁽⁸⁾	298,800	—	167,219	8,550 ⁽⁴⁾	1,189,961
	2019	374,000	—	—	1,180,679	155,210	—	1,709,889

- (1) The amounts reported represent the aggregate grant date fair value of stock options and restricted stock awarded to the named executive officers in 2020 and 2019, as applicable, calculated in accordance with FASB ASC Topic 718. Such grant date fair value does not take into account any estimated forfeitures. The assumptions used in calculating the grant date fair value are set forth in Note 9 to our audited consolidated financial statements for the year ended December 31, 2020. These amounts do not correspond to the actual value that may be recognized by the named executive officers upon vesting or exercise of the applicable awards.
- (2) The amounts reported represent cash incentive compensation based on the board of directors' assessment of the achievement of company and individual performance objectives for the years ended December 31, 2020 and December 31, 2019, respectively, which were paid in February 2021 and February 2020, respectively.
- (3) In 2020, Mr. Hinshaw was granted a total of 200,000 restricted stock units, of which 50,000 of the units are time-based and will vest on January 30, 2022, 100,000 units will vest when it is determined by the compensation committee that performance criteria tied to achievement of certain clinical milestones for its AXA1125 and AXA1665 clinical trials have been met, and the remaining 50,000 units will vest if it is determined by the compensation committee that such performance criteria have been achieved in advance of the expected timeline. The fair value of the restricted stock units as set forth above includes the aggregate grant date fair value for the 50,000 time-based units and 100,000 performance-based units, based on probable achievement of the clinical milestones for its AXA1125 and AXA1665 product candidates. No amount has been included in the table with respect to the remaining 50,000 performance-based units as there was no value ascribed with respect to such award based upon probable achievement. Assuming maximum achievement of the 150,000 performance-based units granted to Mr. Hinshaw, the aggregate grant date fair value is \$703,500.
- (4) The amounts reported represent matching contributions under the Company's 401(k) plan.

- (5) In 2019, Mr. Chardonnet was granted a total of 122,500 option awards, of which 72,500 are time-based and will vest over a term of 4 years, 25,000 are performance-based option awards for which the performance conditions were met and vesting commenced in 2020, and the remaining 25,000 are performance-based option awards for which the performance conditions have not been met. The fair value of the option awards as set forth above includes the aggregate grant date fair value for the 72,500 time-based option awards and the 25,000 performance-based option awards for which the performance conditions were met and vesting commenced in 2020. No amount has been included in the table with respect to the remaining 25,000 performance-based option awards as the award was determined not to be probable of achievement. Assuming maximum achievement of the 50,000 performance-based option awards granted to Mr. Chardonnet, the aggregate grant date fair value is \$111,109.
- (6) The amounts reported represent matching contributions totaling \$8,550 under the Company's 401(k) plan, a \$36,000 housing stipend and \$4,639 in commuting expenses paid to Mr. Chardonnet in 2020 pursuant to his employment agreement.
- (7) The amounts reported represent a housing stipend paid to Mr. Chardonnet pursuant to his employment agreement.
- (8) The amount reported represents a one-time cash bonus of \$300,000 paid in August 2020 pursuant to Dr. Chakravarthy's amended employment agreement.
- (9) Manu Chakravarthy resigned from Axcella effective March 5, 2021.

Narrative to Summary Compensation Table

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

Our compensation committee discharges our board of directors' responsibilities relating to compensation of our directors and executives, oversees our company's overall compensation structure, policies and programs, and reviews our processes and procedures for the consideration and determination of director and executive compensation. Our compensation committee typically reviews and approves grants and awards under equity-based plans for all service providers, including our executive officers. In addition, our compensation committee reviews and recommends to the board of directors for determination the corporate goals and objectives that may be relevant to the compensation of our chief executive officer, and evaluates our chief executive officer's performance, and recommends to the board of directors for determination our chief executive officer's equity and non-equity compensation. Our board of directors discusses the compensation committee's recommendations and ultimately approves the compensation of our executive officers without members of management present.

Annual base salary

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

Cash bonus

Our annual bonus program is intended to reward our named executive officers for meeting objective or subjective performance goals for a fiscal year. From time to time, our board of directors or compensation

committee may approve annual bonuses for our named executive officers based on individual performance, company performance, or as otherwise determined appropriate.

Name	Target Bonus (% of base salary)
William Hinshaw	55
Laurent Chardonnet	40
Manu Chakravarthy, M.D., Ph.D. ⁽¹⁾	40

(1) Manu Chakravarthy resigned from Axcella effective March 5, 2021.

Long-term equity incentives

Our equity grant program is intended to align the interests of our named executive officers with those of our stockholders and to motivate them to make important contributions to our performance. We granted awards to our named executive officers in 2020, as described in the “Outstanding Equity Awards at 2020 Fiscal Year End Table.”

Outstanding Equity Awards at 2020 Fiscal Year End Table

The following table presents information regarding all outstanding equity awards held by each of our named executive officers on December 31, 2020.

Name	Option awards					Stock awards			
	Number of Securities Underlying Unexercised Options Exercisable (#)	Number of Securities Underlying Unexercised Options (#)	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Options (#)	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units Not Vested (#)	Market value of shares or units of stock that have not vested (\$) ⁽¹⁾	Equity Incentive Plan Awards: Number of Unearned Share Rights That Have Not Vested (#)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights that Have not Vested (\$) ⁽¹⁾
William Hinshaw President and CEO	645,580 ⁽²⁾	293,448 ⁽²⁾	—	6.21	6/21/2028	50,000 ⁽⁵⁾	259,500	—	—
	26,600 ⁽³⁾	34,200 ⁽³⁾	—	13.83	3/22/2029	—	—	150,000 ⁽⁶⁾	778,500
	— ⁽⁴⁾	156,700 ⁽⁴⁾	—	4.12	1/2/2030	—	—	—	—
Laurent Chardonnet Senior Vice President and Chief Financial Officer	18,125 ⁽⁷⁾	54,375 ⁽⁷⁾	—	3.40	12/18/2029	—	—	—	—
	6,250 ⁽⁸⁾	18,750 ⁽⁸⁾	—	3.40	12/18/2029	—	—	—	—
	—	—	25,000 ⁽⁹⁾	3.40	12/18/2029	—	—	—	—
Manu Chakravarthy, M.D., Ph.D. ⁽¹³⁾ Executive Vice President of Clinical Development, Chief Medical Officer	161,030 ⁽¹⁰⁾	23,013 ⁽¹⁰⁾	—	6.52	8/9/2027	60,000 ⁽¹²⁾	311,400	—	—
	58,899 ⁽¹¹⁾	58,907 ⁽¹¹⁾	—	13.83	3/11/2029	—	—	—	—
	10,250 ⁽⁷⁾	30,750 ⁽⁷⁾	—	3.40	12/18/2029	—	—	—	—

(1) Based on \$5.19 per share, the last sale price of Axcella common stock on December 31, 2020.

(2) 25% of this option vested and became exercisable on May 31, 2019 and the remainder shall vest in 12 equal quarterly installments thereafter.

(3) This option was granted on March 22, 2019. Following the closing of our initial public offering on May 13, 2019, the vesting period for the stock option commenced subject to approval of performance criteria by the Board of Directors, which occurred on May 22, 2019. 25% of this option vested and became exercisable on March 1, 2020 and the remainder shall vest in 12 equal quarterly installments thereafter.

- (4) 25% of this option vested and became exercisable on January 2, 2021, with the remainder to vest in 12 equal quarterly installments thereafter.
- (5) 100% of the shares will vest on January 30, 2022.
- (6) Of the 150,000 performance-based shares subject to the restricted stock unit award, 100,000 shares will vest when it is determined by the compensation committee that performance criteria tied to the achievement of certain clinical milestones for its AXA1125 and AXA1665 product candidates have been met. The remaining 50,000 shares will vest if it is determined by the compensation committee that such performance criteria have been achieved in advance of the expected milestone timelines.
- (7) 25% of this option vested and became exercisable on December 18, 2020, with the remainder to vest in 12 equal quarterly installments thereafter.
- (8) As part of Mr. Chardonnet's employment agreement with the Company, the Board of Directors granted him a performance-based option award. The performance goal for this award was determined to be achieved by the Board of Directors; and, thus 12.5% of this option vested and became exercisable on August 31, 2020 with the remainder to vest in 7 equal quarterly installments thereafter.
- (9) As part of Mr. Chardonnet's employment agreement with the Company, the Board of Directors granted him a second performance-based option award. The performance goal for this award has not been achieved as of year-end; and, thus has not begun to vest. If the award is determined to be achieved by the Board of Directors, then the award will vest over a period of eight quarters following the date of such determination by the Board of Directors (with vesting occurring on the last day of each complete quarter).
- (10) 25% of this option vested and became exercisable on August 1, 2018, with the remainder to vest in 12 equal quarterly installments thereafter.
- (11) 25% of this option vested and became exercisable on January 1, 2020, with the remainder to vest in 12 equal quarterly installments thereafter.
- (12) This option was granted on August 1, 2020 in connection to Dr. Chakravarthy's promotion to Executive Vice President and Chief Medical Officer of the Company. The restricted stock units awarded vested in full on February 1, 2021.
- (13) Manu Chakravarthy resigned from Axcella effective March 5, 2021.

Employment arrangements with our named executive officers

William Hinshaw

Under our Amended and Restated Employment Agreement with Mr. Hinshaw, dated December 20, 2018, or the Hinshaw Employment Agreement, he will continue to serve as our President and Chief Executive Officer on an at will basis. Mr. Hinshaw initially received a base salary of \$500,000 per year, which is subject to periodic review and adjustment. Mr. Hinshaw is also eligible for an annual performance bonus targeted at 55% of his base salary and is eligible to participate in the employee benefit plans generally available to our employees, subject to the terms of those plans.

The Hinshaw Employment Agreement further provides that if Mr. Hinshaw's employment is terminated by us without Cause (as defined in the Hinshaw Employment Agreement) or Mr. Hinshaw resigns for Good Reason (as defined in the Hinshaw Employment Agreement), he will be entitled to receive: (i) base salary continuation for 12 months following termination, or the Hinshaw Severance Amount, and, (ii) if Mr. Hinshaw is enrolled in our health care program immediately prior to the date of termination and properly elects to receive COBRA benefits, 12 months of COBRA premiums for himself and his eligible dependents at our normal rate of contribution for employees for coverage at the level in effect immediately prior to the date of termination (or a monthly cash payment in lieu thereof if we determine we cannot pay such amounts without potentially violating applicable law). Payment of the Hinshaw Severance Amount shall immediately cease if Mr. Hinshaw breaches the terms of the Restrictive Covenants Agreement between him and us. In lieu of the severance payments and benefits set forth above, in the event Mr. Hinshaw's employment is terminated by us without Cause or he resigns for Good Reason, in either case within 12 months following a Change in Control (as defined in the Hinshaw Employment Agreement), he will be entitled to receive: (i) a lump sum cash amount equal to 1.5 times the sum of (A) his current base salary (or his base salary in

effect prior to the Change in Control, if higher) plus (B) his target annual cash incentive compensation for the year of termination, (ii) if Mr. Hinshaw is enrolled in our health care program immediately prior to the date of termination and properly elects to receive COBRA benefits, 18 months of COBRA premiums for himself and his eligible dependents at our normal rate of contribution for employees for coverage at the level in effect immediately prior to the date of termination (or a monthly cash payment in lieu thereof if we determine we cannot pay such amounts without potentially violating applicable law), and (iii) notwithstanding anything to the contrary provided in the applicable award agreement, accelerated vesting of 100% of all time-based stock options and other stock-based awards subject to time-based vesting, or “Time-Based Equity Awards”, held by Mr. Hinshaw.

Laurent Chardonnet

Under our Employment Agreement with Mr. Chardonnet, dated November 11, 2019, or the Chardonnet Employment Agreement, serves as our Senior Vice President and Chief Financial Officer on an at-will basis. Mr. Chardonnet initially received a base salary of \$375,000 per year, which is subject to periodic review and adjustment. Mr. Chardonnet is also eligible for an annual performance bonus targeted at 40% of his base salary and is eligible to participate in the employee benefit plans generally available to our employees, subject to the terms of those plans.

Under the Chardonnet Employment Agreement, Mr. Chardonnet is entitled for the first two years of employment with Axcella to a housing stipend of up to \$3,000 per month and reimbursements after his start date with Axcella of up to \$600 per week for commuting expenses as long as his main domicile remains in Pennsylvania.

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

Manu Chakravarthy

Under our Amended and Restated Employment Agreement with Dr. Chakravarthy, dated December 29, 2018 as amended on August 1, 2020, or the Chakravarthy Employment Agreement, Dr. Chakravarthy served as our Executive Vice President of Clinical Development and Chief Medical Officer on an at-will basis. Dr. Chakravarthy initially received a base salary of \$374,000 per year, subject to periodic review and adjustment, which was increased to \$450,000 in August 2020. Dr. Chakravarthy was also eligible for an annual performance bonus targeted at 40% of his base salary (or, with respect to 2020, the weighted average of

Dr. Chakravarthy's base salary) and was eligible to participate in the employee benefit plans generally available to our employees, subject to the terms of those plans. In August 2020, Dr. Chakravarthy also received a \$300,000 special cash bonus.

The Chakravarthy Employment Agreement further provided that if Dr. Chakravarthy's employment was terminated by us without Cause (as defined in the Chakravarthy Employment Agreement) or Dr. Chakravarthy resigned for Good Reason (as defined in the Chakravarthy Employment Agreement), he would have been entitled to receive: (i) base salary continuation for nine months following termination, or the Chakravarthy Severance Amount, and, (ii) if Dr. Chakravarthy was enrolled in our health care program immediately prior to the date of termination and properly elected to receive COBRA benefits, nine months of COBRA premiums for himself and his eligible dependents at our normal rate of contribution for employees for coverage at the level in effect immediately prior to the date of termination (or a monthly cash payment in lieu thereof if we determined we could not pay such amounts without potentially violating applicable law).

Payment of the Chakravarthy Severance Amount would have immediately ceased if Dr. Chakravarthy breached the terms of the Restrictive Covenants Agreement between him and us. In lieu of the severance payments and benefits set forth above, in the event Dr. Chakravarthy's employment had been terminated by us without Cause or he had resigned for Good Reason, in either case within 12 months following a Change in Control (as defined in the Chakravarthy Employment Agreement), he would have been entitled to receive: (i) a lump sum cash amount equal to one times the sum of (A) his current base salary (or his base salary in effect prior to the Change in Control, if higher) plus (B) his target annual cash incentive compensation for the year of termination, (ii) if Dr. Chakravarthy was enrolled in our health care program immediately prior to the date of termination and properly elected to receive COBRA benefits, 12 months of COBRA premiums for himself and his eligible dependents at our normal rate of contribution for employees for coverage at the level in effect immediately prior to the date of termination (or a monthly cash payment in lieu thereof if we determined we could not pay such amounts without potentially violating applicable law), and (iii) notwithstanding anything to the contrary provided in the applicable award agreement, accelerated vesting of 100% of all Time-Based Equity Awards held by Dr. Chakravarthy.

Dr. Chakravarthy resigned voluntarily from Axcella, effective March 5, 2021.

Other agreements

We have also entered into employee confidentiality, inventions, non-solicitation and non-competition agreements with each of our named executive officers. Under such agreements, each named executive officer has agreed (1) not to compete with us during his or her employment and for a period of one year after the termination of such employment, (2) not to solicit our employees during his or her employment and for a period of one year after the termination of such employment, (3) to protect our confidential and proprietary information and (4) to assign to us related intellectual property developed during the course of his or her employment.

Additional Narrative Disclosure

401(k) Savings Plan. We maintain a 401(k) retirement savings plan for the benefit of our employees, including our named executive officers, who satisfy certain eligibility requirements. Under the 401(k) plan, eligible employees may elect to defer a portion of their compensation, within the limits prescribed by Internal Revenue Code of 1986, as amended, (the "Code") on a pre-tax or after tax (Roth) basis through contributions to the 401(k) plan. We are permitted to make discretionary profit sharing contributions to the 401(k) plan. In 2020 the Company began matching 50% of every employees' first 6% of contributions and the contributions will be 100% vested after 1 year of employment. The 401(k) plan is intended to qualify under Section 401(a) of the Code. As a tax qualified retirement plan, pre-tax contributions to the 401(k) plan and earnings on those pre-tax contributions are not taxable to the employees until distributed from the 401(k) plan, and earnings on Roth contributions are not taxable when distributed from the 401(k) plan.

Health and Welfare Benefits. All of our full-time employees, including our named executive officers, are eligible to participate in our health and welfare plans, including medical and dental benefits, short-term and long-term disability insurance, and life insurance. We believe these prerequisites are necessary and appropriate to provide a competitive compensation package to our named executive officers.

Compensation Risk Assessment

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

Rule 10b5-1 Sales Plans

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

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Other than the compensation agreements and other arrangements described under “Executive Compensation” and “Director Compensation” in this proxy statement and the transactions described below, since January 1, 2020, there has not been and there is not currently proposed, any transaction or series of similar transactions to which we were, or will be, a party in which the amount involved exceeded, or will exceed, \$120,000 and in which any director, executive officer, holder of five percent or more of any class of our capital stock or any member of the immediate family of, or entities affiliated with, any of the foregoing persons, had, or will have, a direct or indirect material interest.

Agreements with our stockholders

Investors’ Rights Agreement

In connection with the initial closing of our Series E Preferred Stock financing on November 30, 2018, we entered into a fifth amended and restated investors’ rights agreement, or investors’ rights agreement, with certain of our stockholders, including affiliates of Flagship Pioneering Funds, or Flagship. The investors’ rights agreement, among other things, granted investors party thereto certain registration rights (the “Registration Rights”), including demand registration rights, short-form registration rights, and piggyback registration rights, with respect to shares of our common stock, including shares of common stock issued or issuable upon conversion of our convertible preferred stock.

The Registration Rights will terminate on the earlier to occur of May 13, 2024 or, as to each holder, such earlier time at which such holder (i) can sell all shares held by it in compliance with SEC Rule 144(b) (1)(i) or (ii) holds 1% or less of our common stock and all registrable securities held by such holder can be sold in any three-month period without registration in compliance with SEC Rule 144.

Agreement with Flagship Pioneering

In December 2008, we entered into a services agreement with Flagship Ventures Management, Inc., now known as Flagship Pioneering, Inc., an affiliate of the Flagship Pioneering Funds, under which Flagship Pioneering, Inc. provides us with advisory and administrative services on an as-needed basis. The agreement, which is invoiced monthly, may be terminated by either party upon 30 days’ prior written notice. Our transactions with Flagship Pioneering, Inc. were immaterial for the year ended December 31, 2020, for services provided under the services agreement.

Limitation of Liability and Indemnification of Officers and Directors

Our restated certificate of incorporation contains provisions that limit the liability of our directors for monetary damages to the fullest extent permitted by the Delaware General Corporation Law, or DGCL. Consequently, our directors are not personally liable to us or our stockholders for monetary damages for any breach of fiduciary duties as directors, except liability for:

- any breach of the director’s duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the DGCL; or
- any transaction from which the director derived an improper personal benefit.

Our amended and restated bylaws require us to indemnify our directors and officers to the maximum extent not prohibited by the DGCL and allow us to indemnify other employees and agents as set forth in the DGCL. Subject to certain limitations, our amended and restated bylaws also require us to advance expenses incurred by our directors and officers for the defense of any action for which indemnification is required or permitted.

We have entered, and intend to continue to enter, into separate indemnification agreements with our directors, officers and certain of our key employees, in addition to the indemnification provided for in our

restated certificate of incorporation and amended and restated bylaws. These agreements, among other things, require us to indemnify our directors, officers and key employees for certain expenses, including attorneys' fees, judgments, penalties, fines and settlement amounts actually incurred by these individuals in any action or proceeding arising out of their service to us or any of our subsidiaries or any other company or enterprise to which these individuals provide services at our request. Subject to certain limitations, our indemnification agreements also require us to advance expenses incurred by our directors, officers and key employees for the defense of any action for which indemnification is required or permitted.

PRINCIPAL STOCKHOLDERS

The following table sets forth information, to the extent known by us or ascertainable from public filings, with respect to the beneficial ownership of our common stock as of March 31, 2021 by:

- each of our directors;
- each of our named executive officers;
- all of our directors and executive officers as a group; and
- each person, or group of affiliated persons, who is known by us to beneficially own 5% or more of our common stock.

The column entitled “Shares Beneficially Owned” is based on a total of 37,690,435 shares of our common stock outstanding as of March 31, 2021.

Beneficial ownership is determined in accordance with the rules and regulations of the SEC and includes voting or investment power with respect to our common stock. Shares of our common stock subject to options that are currently exercisable or exercisable within 60 days of March 31, 2021 are considered outstanding and beneficially owned by the person holding the options for the purpose of calculating the percentage ownership of that person but not for the purpose of calculating the percentage ownership of any other person. Except as otherwise noted, the persons and entities in this table have sole voting and investing power with respect to all of the shares of our common stock beneficially owned by them, subject to community property laws, where applicable. Except as otherwise indicated in the table below, addresses of named beneficial owners are in care of Axcella Health Inc., 840 Memorial Drive, Cambridge, Massachusetts 02139.

Name of Beneficial Owner	Shares beneficially owned	
	Number	Percentage
5% Stockholders:		
Flagship Pioneering ⁽¹⁾	12,548,414	33.3%
FMR LLC ⁽²⁾	5,631,132	14.9%
Nestlé S.A. ⁽³⁾	4,305,541	11.4%
HarbourVest Partners, LLC ⁽⁴⁾	2,807,981	7.5%
Named executive officers and directors:		
William Hinshaw ⁽⁵⁾	783,638	2.1%
Manu Chakravarthy, M.D., Ph.D. ⁽⁶⁾	271,707	*
Laurent Chardonnet ⁽⁷⁾	41,422	*
David R. Epstein ⁽⁸⁾	994,870	2.6%
Gary Pisano, Ph.D. ⁽⁹⁾	103,433	*
Stephen Hoge, M.D. ⁽¹⁰⁾	76,288	*
William D. Baird III ⁽¹¹⁾	57,080	*
Cristina M. Rondinone, Ph.D. ⁽¹²⁾	53,717	*
Catherine A. Sohn, PharmD. ⁽¹³⁾	24,831	*
Grégory Behar, M.B.A. ⁽¹⁴⁾	22,000	*
Shreeram Aradhya, M.D. ⁽¹⁵⁾	3,667	*
All executive officers and directors as a group (13 persons)⁽¹⁶⁾	2,511,647	6.7%

* Represents beneficial ownership of less than one percent.

(1) Based solely on a Schedule 13D filed with the SEC on May 20, 2020, consists of (i) 2,035,830 shares of common stock held by Flagship VentureLabs IV, LLC (“VentureLabs IV”) (ii) 6,844,610 shares of common stock held by Flagship Ventures Fund IV, L.P. (Flagship Ventures Fund IV General Partner

- LLC) (iii) 1,056,752 share of common stock held by Flagship Ventures Fund IV-Rx, L.P. (Flagship Ventures Fund IV General Partner LLC) (iv) 1,761,029 shares of common stock held by Flagship Ventures Fund 2007, L.P. (Flagship Ventures 2007 General Partner LLC) (v) 2,886,023 shares of common stock held by Flagship Ventures Opportunities Fund I, L.P. (Flagship Ventures Opportunities Fund I General Partner LLC). Noubar B. Afeyan, Ph.D. is the sole manager of Flagship Fund IV GP, Flagship Fund 2007 GP and Flagship Opportunities GP, and he may be deemed to beneficially own the shares directly held by the Flagship Fund IV Funds, Flagship Fund 2007, and Flagship Opportunities. Effective May 11, 2020, Mr. Kania retired from Flagship Pioneering, Inc. and as manager of Flagship Fund IV GP and Flagship Fund 2007 GP. The address of each of the entities and individuals listed above is 55 Cambridge Parkway, Suite 800E, Cambridge, MA 02142.
- (2) Based solely on a Schedule 13G/A filed with the SEC on February 8, 2021, FMR LLC has sole voting power with respect to 2,130,554 shares and sole dispositive power over 5,631,132 shares and Abigail P. Johnson has sole dispositive power over 5,631,132 shares. Abigail P. Johnson is a Director, the Chairman and the Chief Executive Officer of FMR LLC. Members of the Johnson family, including Abigail P. Johnson, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B shareholders have entered into a shareholders' voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders' voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC. Neither FMR LLC nor Abigail P. Johnson has the sole power to vote or direct the voting of the shares owned directly by the various investment companies registered under the Investment Company Act ("Fidelity Funds") advised by Fidelity Management & Research Company ("FMR Co"), a wholly owned subsidiary of FMR LLC, which power resides with the Fidelity Funds' Boards of Trustees. FMR Co carries out the voting of the shares under written guidelines established by the Fidelity Funds' Boards of Trustees. The address of FMR LLC is 245 Summer Street, Boston, Massachusetts 02210.
- (3) Based solely on a Schedule 13G filed with the SEC on February 12, 2021, (i) Société des Produits Nestlé S.A. ("SPN") and (ii) Nestlé S.A. ("Nestlé"), the ultimate parent of SPN, each has shared voting power and shared dispositive power with respect to 4,305,541 shares. Nestlé disclaims beneficial ownership of such shares of Common Stock except to the extent of its pecuniary interest therein. The principal executive office of SPN and Nestlé is Avenue Nestlé 55, CH-1800, Vevey Switzerland.
- (4) Based solely on a Schedule 13G filed with the SEC on February 16, 2021, consists of 2,807,981 shares common stock owned directly by SMRS-TOPE LLC. HarbourVest Partners, LLC ("HarbourVest") is the General Partner of HarbourVest Partners L.P., which is the Manager of HVST-TOPE LLC, which is the Managing Member of SMRS-TOPE LLC. Each of HarbourVest, HarbourVest Partners L.P. and HVST-TOPE LLC may be deemed to have a beneficial interest in the shares held by SMRS-TOPE LLC. SMRS-TOPE LLC has the sole power to vote or to direct the vote of; and, to dispose or to direct the disposition of 2,807,981 shares of common stock. HarbourVest, HarbourVest Partners L.P. and HVST-TOPE LLC may be deemed to have shared power to vote or to direct the vote of; and, to dispose or to direct the disposition of 2,807,981 shares of common stock. Voting and investment power over the securities owned directly by SMRS-TOPE LLC is exercised by the Investment Committee of HarbourVest. Each of HarbourVest, HarbourVest Partners L.P. and HVST-TOPE LLC and the members of the HarbourVest Investment Committee disclaim beneficial ownership of the shares held directly by SMRS-TOPE LLC. The principal business office of each HarbourVest Partners, LLC, HarbourVest Partners L.P., HVST-TOPE LLC and SMRS-TOPE LLC is One Financial Center, Boston, MA 02111.
- (5) Consists entirely of shares of common stock underlying options exercisable within 60 days of March 31, 2021.
- (6) Consists of 41,528 shares of common stock and 230,179 shares of common stock underlying options exercisable within 60 days of March 31, 2021.
- (7) Consists of 6,266 shares of common stock and 35,156 shares of common stock underlying options exercisable within 60 days of March 31, 2021.

- (8) Consists of 121,172 shares of common stock and 873,698 shares of common stock underlying options exercisable within 60 days of March 31, 2021.
- (9) Consists entirely of shares of common stock underlying options exercisable within 60 days of March 31, 2021.
- (10) Consists entirely of shares of common stock underlying options exercisable within 60 days of March 31, 2021.
- (11) Consists entirely of shares of common stock underlying options exercisable within 60 days of March 31, 2021.
- (12) Consists entirely of shares of common stock underlying options exercisable within 60 days of March 31, 2021.
- (13) Consists of 1,000 shares of common stock and 23,831 shares of common stock underlying options exercisable within 60 days of March 31, 2021.
- (14) Consists entirely of shares of common stock underlying options exercisable within 60 days of March 31, 2021.
- (15) Consists entirely of shares of common stock underlying options exercisable within 60 days of March 31, 2021.
- (16) Also includes an aggregate of 78,994 shares of common stock underlying options exercisable within 60 days of March 31, 2021 held by Paul Fehlner, J.D., Ph.D. and Alison Schecter, M.D.

DELINQUENT SECTION 16(a) REPORTS

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

Based solely on a review of reports furnished to us, or written representations from reporting persons, we believe all directors, executive officers, and 10% owners timely filed all reports regarding transactions in our securities required to be filed for 2020 by Section 16(a) under the Exchange Act, except for a Form 4 for Manu Chakravarthy.

REPORT OF THE AUDIT COMMITTEE

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

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

In connection with these responsibilities, the audit committee reviewed and discussed with management and the independent registered public accounting firm the audited consolidated financial statements of Axcella for the fiscal year ended December 31, 2020. The audit committee also discussed with the independent registered public accounting firm the matters required to be discussed by the PCAOB's Auditing Standard No. 1301, *Communication with Audit Committees*. In addition, the audit committee received written communications from the independent registered public accounting firm confirming their independence as required by the applicable requirements of the PCAOB and has discussed with the independent registered public accounting firm their independence.

Based on the reviews and discussions referred to above, the audit committee recommended to the board of directors that the audited consolidated financial statements of Axcella be included in Axcella's Annual Report on Form 10-K for the fiscal year ended December 31, 2020, that was filed with the SEC. The information contained in this report shall not be deemed to be (1) "soliciting material," (2) "filed" with the SEC, (3) subject to Regulations 14A or 14C of the Exchange Act, or (4) subject to the liabilities of Section 18 of the Exchange Act. This report shall not be deemed incorporated by reference into any of our other filings under the Exchange Act or the Securities Act, except to the extent that we specifically incorporate it by reference into such filing.

THE AUDIT COMMITTEE OF THE BOARD OF
DIRECTORS OF AXCELLA HEALTH INC.

William D. Baird III, Chairperson
Gary Pisano, Ph.D.
Grégory Behar

April 5, 2021

GENERAL MATTERS

Householding of Proxy Materials

Some banks, brokers and other nominee record holders may be participating in the practice of “householding” proxy statements and annual reports. This means that only one copy of our documents, including the annual report to stockholders and proxy statement, may have been sent to multiple stockholders in your household. We will promptly deliver a separate copy of either document to you upon written or oral request to Axcella Health Inc., 840 Memorial Drive, Cambridge, Massachusetts 02139, Attention: Corporate Secretary, telephone: (857) 320-2200. If you want to receive separate copies of the proxy statement or annual report to stockholders in the future, or if you are receiving multiple copies and would like to receive only one copy per household, you should contact your bank, broker or other nominee record holder, or you may contact us at the above address and phone number.

Stockholder Proposals

A stockholder who would like to have a proposal considered for inclusion in our 2022 proxy statement must submit the proposal in accordance with the procedures outlined in Rule 14a-8 of the Exchange Act so that it is received by us no later than December 23, 2021. However, if the date of the 2022 Annual Meeting of Stockholders is changed by more than 30 days from the date of the previous year’s meeting, then the deadline is a reasonable time before we begin to print and send our proxy statement for the 2022 Annual Meeting of Stockholders. SEC rules set standards for eligibility and specify the types of stockholder proposals that may be excluded from a proxy statement. Stockholder proposals should be addressed to Axcella Health Inc., 840 Memorial Drive, Cambridge, Massachusetts 02139, Attention: Corporate Secretary.

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

The required notice must be in writing and received by our corporate secretary at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary of the preceding year’s annual meeting. However, in the event that the date of the annual meeting is advanced by more than 30 days, or delayed by more than 60 days, from the first anniversary of the preceding year’s annual meeting, a stockholder’s notice must be so received no earlier than the 120th day prior to such annual meeting and not later than the close of business on the later of (A) the 90th day prior to such annual meeting and (B) the tenth day following the day on which notice of the date of such annual meeting was mailed or public disclosure of the date of such annual meeting was made, whichever first occurs. For stockholder proposals to be brought before the 2022 Annual Meeting of Stockholders, the required notice must be received by our corporate secretary at our principal executive offices no earlier than January 20, 2022, and no later than February 18, 2022. Stockholder proposals and the required notice should be addressed to Axcella Health Inc., 840 Memorial Drive, Cambridge, Massachusetts 02139, Attention: Corporate Secretary.

Other Matters

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



Using a **black ink** pen, mark your votes with an **X** as shown in this example.
Please do not write outside the designated areas.



2021 Annual Meeting Proxy Card

▼ IF VOTING BY MAIL, SIGN, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ▼

A Proposals – The Board of Directors recommend a vote **FOR** the nominees listed and **FOR** Proposal 2.

1. To elect four Class II directors to our board of directors, to serve until the 2024 annual meeting of stockholders and until his or her successor has been duly elected and qualified, or until his or her earlier death, resignation or removal;



	For	Withhold		For	Withhold		For	Withhold
01 - Grégory Behar	<input type="checkbox"/>	<input type="checkbox"/>	02 - Gary Pisano	<input type="checkbox"/>	<input type="checkbox"/>	03 - Cristina M. Rondinone	<input type="checkbox"/>	<input type="checkbox"/>
04 - Shreeram Aradhye	<input type="checkbox"/>	<input type="checkbox"/>						

2. To ratify the appointment of Deloitte & Touche LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2021

For	Against	Abstain
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B Authorized Signatures – This section must be completed for your vote to count. Please date and sign below.

Please sign exactly as name(s) appears hereon. Joint owners should each sign. When signing as attorney, executor, administrator, corporate officer, trustee, guardian, or custodian, please give full title.

Date (mm/dd/yyyy) – Please print date below.

Signature 1 – Please keep signature within the box.

Signature 2 – Please keep signature within the box.



1 U P X



**Important notice regarding the Internet availability of proxy materials for the Annual Meeting of Stockholders.
The material is available at: www.investorvote.com/AXLA**

▼ IF VOTING BY MAIL, SIGN, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ▼

Axcella Health Inc.

Notice of 2021 Annual Meeting of Stockholders

Proxy Solicited by Board of Directors for Annual Meeting – May 20, 2021

William Hinshaw and Laurent Chardonnet, or any of them, each with the power of substitution, are hereby authorized to represent and vote the shares of the undersigned, with all the powers which the undersigned would possess if personally present, at the Annual Meeting of Stockholders of Axcella Health Inc. to be held on May 20, 2021 or at any postponement or adjournment thereof.

Shares represented by this proxy will be voted as directed by the stockholder. If no such directions are indicated, the Proxies will have authority to vote FOR the election of the nominees and FOR item 2.

In their discretion, the Proxies are authorized to vote upon such other business as may properly come before the meeting.

(Items to be voted appear on reverse side)
