UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

SCHEDULE 14A

(Rule 14a-101)

INFORMATION REQUIRED IN PROXY STATEMENT SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of the Securities Exchange Act of 1934

| Filed by the Registrant $oximes$ | | egistrant $oxine$ Filed by a Party other than the Registrant $oxine$ | | | |
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| | Preliminary Proxy Statement | | | | |
| | Confid | lential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2)) | | | |
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| | Defini | ive Additional Materials | | | |
| | Solicit | ing Material Pursuant to § 240.14a-12 | | | |
| | | ZIOPHARM Oncology, Inc. | | | |
| | | (Name of Registrant as Specified in Its Charter) | | | |
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One First Avenue, Parris Building 34, Navy Yard Plaza, Third Floor Boston, Massachusetts 02129

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS To be Held on May 19, 2021

To the stockholders of Ziopharm Oncology, Inc.:

NOTICE IS HEREBY GIVEN that the 2021 annual meeting of stockholders (the "annual meeting") of Ziopharm Oncology, Inc. (the "Company"), which, due to the public health concerns regarding the ongoing coronavirus pandemic (COVID-19), will be held virtually and exclusively online via live audio-only webcast, on Wednesday, May 19, 2021, at 9:00 a.m. Eastern time, for the following purposes:

- 1. To elect the seven nominees for director named in the accompanying proxy statement (the "proxy statement") to hold office until the 2022 annual meeting of stockholders and until their successors are duly elected and qualified (Proposal 1);
- 2. To ratify the selection by the audit committee of the board of directors of RSM US LLP as the independent registered public accounting firm of the Company for its fiscal year ending December 31, 2021 (Proposal 2);
- 3. To approve, on an advisory basis, the compensation of the Company's named executive officers as disclosed in the proxy statement (Proposal 3);
- 4. To approve an amendment to the Company's amended and restated certificate of incorporation to increase the authorized number of shares of common stock from 250,000,000 shares to 350,000,000 shares (Proposal 4); and
- 5. To transact any other business as may properly come before the annual meeting or any adjournments thereof.

These items of business are more fully described in the Proxy Statement accompanying this Notice.

You will be able to attend the annual meeting online, submit your questions during the annual meeting and vote your shares electronically during the meeting by visiting www.virtualshareholdermeeting.com/ZIOP2021. Because the annual meeting is being held electronically, you will not be able to attend the annual meeting in person.

The record date for the annual meeting is March 22, 2021. Only stockholders of record at the close of business on that date may vote at the annual meeting or any adjournment or postponement thereof. To participate in and vote at the annual meeting, stockholders will need the unique 16-digit control number (printed in the box marked by the arrow) in their Notice of Internet Availability of Proxy Materials or proxy card (if you requested a printed copy of the proxy materials).

By Order of the Board of Directors,

Robert Hadfield

Chief Legal Officer and Secretary

Boston, Massachusetts

April 7, 2021

Your vote is very important. Whether or not you attend the annual meeting virtually, it is important that your shares be represented. You may vote your proxy through the Internet, by telephone or, if you receive a paper proxy card by mail, by completing and returning the proxy card mailed to you. Voting instructions are provided in the Notice of Internet Availability of Proxy Materials, or, if you receive a paper proxy card by mail, the instructions are printed on your proxy card and included in the proxy statement. If you participate virtually in the annual meeting, you may vote at that time, even if you previously submitted your vote. Even if you plan to participate in the annual meeting, we urge you to vote as soon as possible over the internet, by telephone or by mail as described in the proxy statement.

Table of Contents

| QUESTIONS AND ANSWERS ABOUT THESE PROXY MATERIALS AND VOTING | Page 1 |
|---|-----------|
| PROPOSALS | 7 |
| Proposal 1 Election of Directors | , 7 |
| Proposal 2 Ratification of Selection of Independent Registered Public Accounting Firm | 9 |
| Proposal 3 Advisory Vote on Executive Compensation | 11 |
| Proposal 4 Approval of Certificate of Amendment of the Amended and Restated Certificate of Incorporation to Increase the Total Number | |
| of Authorized Shares of Common Stock | 12 |
| STOCKHOLDER PROPOSALS FOR THE 2022 ANNUAL MEETING OF STOCKHOLDERS | 15 |
| CURRENT DIRECTORS, DIRECTOR NOMINEES AND EXECUTIVE OFFICERS | 16 |
| EXECUTIVE COMPENSATION | 23 |
| Compensation Discussion and Analysis | 23 |
| Executive Summary | 23 |
| Stockholder Engagement and Actions in Response to 2020 Advisory Vote on Executive Compensation | 25 |
| Overview of our Executive Compensation Program | 26 |
| Role of our Compensation Committee, Management and Consultant | 27 |
| Peer Group, Survey Sources and Market Data | 28 |
| 2020 Compensation Decisions | 29 |
| Tax Deductibility of Executive Compensation | 37 |
| Accounting Considerations | 37 |
| Compensation Recovery Policy | 37 |
| Risk Analysis of Our Compensation Program | 37 |
| Compensation Committee Report | 38 |
| Executive Compensation Tables | 38 |
| Employment and Change in Control Agreements | 42 |
| Pay Ratio Disclosure | 49 |
| INFORMATION REGARDING THE BOARD OF DIRECTORS AND CORPORATE GOVERNANCE | 50 |
| Independence of the Board of Directors | 50 |
| Board Leadership Structure | 50 |
| Director Attendance at Board and Stockholder Meetings | 50 |
| Board Committees | 50 |
| Director Nomination Process | 52 |
| Risk Management and Oversight | 53 |
| Stockholder Communications with Directors | 54 |
| Compensation Committee Interlocks and Insider Participation | 54 |

Table of Contents (continued)

| Code of Ethics and Business Conduct | Page 54 |
|--|------------|
| Corporate Governance Guidelines | 54 |
| Report of the Audit Committee | 54 |
| DIRECTOR COMPENSATION | 56 |
| Non-Employee Director Compensation Policy | 56 |
| Director Compensation Table | 57 |
| SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS | 58 |
| LIMITATION OF LIABILITY AND INDEMNIFICATION | 59 |
| CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS | 60 |
| Related-Party Transaction Policy | 60 |
| Certain Related-Party Transactions | 60 |
| SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT | 63 |
| HOUSEHOLDING OF PROXY MATERIALS | 66 |
| OTHER MATTERS | 67 |

Ziopharm Oncology, Inc. One First Avenue, Parris Building 34, Navy Yard Plaza, Third Floor Boston, Massachusetts 02129

PROXY STATEMENT FOR THE ANNUAL MEETING OF STOCKHOLDERS

To Be Held On May 19, 2021

QUESTIONS AND ANSWERS ABOUT THESE PROXY MATERIALS AND VOTING

Who is soliciting my vote?

We are providing you with these proxy materials because the board of directors (the "board") of Ziopharm Oncology, Inc. (sometimes referred to as "we," "us," "our" or the "Company") is soliciting your proxy to vote at the 2021 annual meeting of stockholders (the "annual meeting"), including at any adjournments or postponements thereof. The annual meeting will be held on May 19, 2021 at 9:00 a.m., Eastern Time virtually and exclusively online via live audio-only webcast at www.virtualshareholdermeeting.com/ZIOP2021.

Why did I receive a notice regarding the availability of proxy materials through the internet?

Pursuant to rules adopted by the Securities and Exchange Commission, or the SEC, we have elected to provide access to our proxy materials over the internet. Accordingly, we have sent you a Notice of Internet Availability of Proxy Materials (the "Notice") because the board is soliciting your proxy to vote at the annual meeting, including at any adjournments or postponements thereof. All stockholders will have the ability to access the proxy materials through the website referred to in the Notice or to request a printed set of the proxy materials. Instructions on how to access the proxy materials over the internet or to request a printed set may be found in the Notice.

We intend to mail the Notice on or about April 7, 2021 to all stockholders of record entitled to vote at the annual meeting.

Why are you holding a virtual annual meeting?

As part of our effort to maintain a safe and healthy environment for our directors, members of management and stockholders who wish to attend the annual meeting, in light of the ongoing coronavirus disease, COVID-19, pandemic we believe that hosting a virtual meeting is in the best interest of the Company and its stockholders and enables increased stockholder attendance and participation because stockholders can participate from any location around the world. Stockholders will have the same rights and opportunities to participate as they would have at an in-person meeting.

Will I receive any other proxy materials by mail?

We may send you a proxy card, along with a second Notice, on or after April 7, 2021.

How do I attend the annual meeting?

You cannot attend the annual meeting physically. You can attend the annual meeting by visiting www.virtualshareholdermeeting.com/ZIOP2021, where you will be able to listen to the annual meeting live, submit questions and vote online.

The annual meeting will start at 9:00 a.m. Eastern Time on May 19, 2021. We encourage you to access the annual meeting prior to the start time to allow time for online check-in. We have worked to offer the same

participation opportunities as would be provided at an in-person meeting while further enhancing the online experience available to all stockholders regardless of their location. However, please be aware that you must bear any costs associated with your internet access, such as usage charges from internet access providers and telephone companies. If you experience technical difficulties during the annual meeting, you should call the technical support phone number provided when you log in to the annual meeting.

In order to enter the annual meeting virtually, you will need the unique 16-digit control number, which is included in the Notice or on your proxy card if you are a stockholder of record of the shares, or included with your voting instruction card and voting instructions received from your broker, bank, trustee, or nominee if you are the beneficial owner of the shares held in "street name."

What if I cannot virtually attend the annual meeting?

You may vote your shares electronically before the meeting by internet, by proxy or by telephone as described below. You do not need to access the annual meeting audio-only webcast to vote if you submitted your vote via proxy, by internet or by telephone in advance of the annual meeting.

Who can vote at the annual meeting?

Only stockholders of record at the close of business on March 22, 2021 will be entitled to vote at the annual meeting. On the record date, there were 215,205,173 shares of common stock outstanding and entitled to vote. A list of such holders will be open to the examination of any stockholder for any purpose germane to the annual meeting at Ziopharm Oncology, One First Avenue, Parris Building 34, Navy Yard Plaza, Boston, Massachusetts for a period of ten (10) days prior to the annual meeting. Please contact the Secretary of the Company to make arrangements to inspect the list.

Stockholder of Record — Shares Registered in Your Name: If on March 22, 2021, your shares were registered directly in your name with our transfer agent, American Stock Transfer & Trust Company, LLC, then you are a stockholder of record. As a stockholder of record, you may vote at the annual meeting virtually or vote by proxy prior to the annual meeting. Whether or not you plan to attend the annual meeting, we urge you to vote by proxy through the internet, by telephone or using a proxy card that you may request as instructed below, to ensure your vote is counted.

Beneficial Owner — Shares Registered in the Name of a Broker or Bank: If on March 22, 2021, your shares were not registered in your name, but instead are held in an account at a brokerage firm, bank, dealer or similar organization, then you are the beneficial owner of shares held in "street name" and the Notice is being forwarded to you by that organization. The organization holding your account is considered to be the stockholder of record for purposes of voting at the annual meeting. As a beneficial owner, you have the right to direct your broker, bank or other agent regarding how to vote the shares in your account. You are also invited to attend the annual meeting. Since you are not the stockholder of record, however, you may not vote your shares at the annual meeting even if you participate virtually unless you request and obtain a valid proxy from your broker, bank or other agent.

What am I voting on?

There are four matters scheduled for a vote:

- 1. Election of seven (7) directors (Proposal 1);
- 2. Ratification of the selection by the audit committee of the board of directors of RSM US LLP as the Company's independent registered public accounting firm for its fiscal year ending December 31, 2021 (Proposal 2);

- 3. Approval, on an advisory basis, of the compensation of the Company's named executive officers as disclosed in this proxy statement (Proposal 3); and
- 4. Approval of the proposed amendment to the Company's charter to increase the authorized number of shares of common stock from 250,000,000 shares to 350,000,000 shares (Proposal 4).

What if another matter is properly brought before the annual meeting?

The board of directors knows of no other matters that will be presented for consideration at the annual meeting. If any other matters are properly brought before the annual meeting, it is the intention of the persons named in the accompanying proxy to vote on those matters in accordance with their best judgment.

How do I vote?

With respect to Proposal 1, you may vote "For" all the nominees to the board of directors, or you may "Withhold" your vote for any of the nominees you specify. With respect to the other proposals, you may vote "For" or "Against," or you may abstain from voting.

The procedures for voting are fairly simple:

Stockholder of Record — Shares Registered in Your Name: If you are a stockholder of record, you may vote electronically over the internet before or during annual meeting, vote by proxy over the telephone, vote by proxy through the internet, or vote by proxy using a proxy card that you may request or that we may elect to deliver at a later time. Whether or not you plan to attend the virtual annual meeting, we urge you to vote by proxy to ensure your vote is counted. You may still attend the annual meeting virtually and vote electronically at the annual meeting even if you have already voted by proxy. You may vote as follows:

- To vote through the internet before the annual meeting, go to www.proxyvote.com to complete an electronic proxy card. You will be asked
 to provide the 16-digit control number from the Notice. Your vote must be received by 11:59 p.m. Eastern time, on May 18, 2021 to be
 counted.
- To vote your shares electronically at the annual meeting, you will need to visit www.virtualshareholdermeeting.com/ZIOP2021 during the annual meeting while the polls are open and follow the instructions provided on the Notice or the proxy card. You will be asked to provide the control number from the notice and follow the instructions.
- To vote over the telephone from a location in the United States, dial toll-free 1-800-6903, using a touch-tone phone and follow the recorded instructions. You will be asked to provide the 16-digit control number from the Notice. Your vote must be received by 11:59 p.m. Eastern time, on May 18, 2021 to be counted.
- To vote using a proxy card, you may request a proxy card by following the instructions in the Notice. Once you receive the proxy card, simply complete, sign and date the proxy card and return it promptly in the envelope provided. If you return your signed proxy card to us before the annual meeting, we will vote your shares as you direct.

Beneficial Owner — Shares Registered in the Name of a Broker or Bank: If you are a beneficial owner of shares registered in the name of your broker, bank, or other agent, you should have received a Notice containing voting instructions from that organization rather than from us. Simply follow the voting instructions in the Notice to ensure that your vote is counted. To vote electronically at the annual meeting, you must obtain a valid proxy from your broker, bank, or other agent. Follow the instructions from your broker or bank included with these proxy materials, or contact your broker or bank to request a proxy form.

We provide Internet proxy voting to allow you to vote your shares online, with procedures designed to ensure the authenticity and correctness of your proxy vote instructions. However, please be aware that you must bear any costs associated with your internet access, such as usage charges from internet access providers and telephone companies.

How many votes do I have?

On each matter to be voted upon, you have one vote for each share of common stock you own as of March 22, 2021.

If I am a stockholder of record and I do not vote, or if I return a proxy card or otherwise vote without giving specific voting instructions, what happens?

If you are a stockholder of record and do not vote by completing your proxy card, by telephone, through the internet or by voting electronically at the annual meeting, your shares will not be voted.

If you return a signed and dated proxy card or otherwise vote without marking voting selections, your shares will be voted, as applicable, "For" the election of all seven nominees for director, "For" the ratification of the selection by the audit committee of the board of directors of RSM US LLP as our independent registered public accounting firm for our fiscal year ending December 31, 2021, "For" the approval, on an advisory basis, of the compensation of our named executive officers as disclosed in this proxy statement, and "For" an amendment to our charter to effect the increase of the authorized number of shares of our common stock from 250,000,000 shares to 350,000,000 shares. If any other matter is properly presented at the annual meeting, your proxyholder (one of the individuals named on your proxy card) will vote your shares using his or her best judgment.

If I am a beneficial owner of shares held in street name and I do not provide my broker or bank with voting instructions, what happens?

If you are a beneficial owner of shares held in street name and you do not instruct your broker, bank or other agent how to vote your shares, your broker, bank or other agent may still be able to vote your shares in its discretion. Under the rules of the New York Stock Exchange, or NYSE, brokers, banks and other securities intermediaries that are subject to NYSE rules may use their discretion to vote your "uninstructed" shares with respect to matters considered to be "routine" under NYSE rules, but not with respect to "non-routine" matters. Proposals 1 and 3 are considered to be "non-routine" under NYSE rules meaning that your broker may not vote your shares on those proposals in the absence of your voting instructions. However, Proposals 2 and 4 are considered to be "routine" matters under NYSE rules meaning that if you do not return voting instructions to your broker by its deadline, your shares may be voted by your broker in its discretion on Proposals 2 and 4. Accordingly, if you own shares through a nominee, such as a broker, bank or other agent, please be sure to instruct your nominee how to vote to ensure that your vote is counted on all of the proposals.

If you are a beneficial owner of shares held in street name, in order to ensure your shares are voted in the way you would prefer, you must provide voting instructions to your broker, bank or other agent by the deadline provided in the materials you receive from your broker, bank or other agent.

How are proxies solicited for the Annual Meeting?

At this time we have not engaged a proxy solicitation firm, but we may decide to retain the services of a proxy solicitation firm in the future if we believe it is appropriate under the circumstances. If we do engage a proxy solicitor, we will pay for the entire cost of soliciting proxies. In addition to these proxy materials, our directors and employees may also solicit proxies in person, by telephone, or by other means of communication. Directors and employees will not be paid any additional compensation for soliciting proxies. We may also reimburse brokerage firms, banks and other agents for the cost of forwarding proxy materials to beneficial owners.

What does it mean if I receive more than one Notice?

If you receive more than one Notice, your shares may be registered in more than one name or in different accounts. Please follow the voting instructions on each Notice to ensure that all of your shares are voted.

Can I change my vote after submitting my proxy?

Stockholder of Record: Shares Registered in Your Name

Yes. You can revoke your proxy at any time before the final vote at the annual meeting. If you are the record holder of your shares, you may revoke your proxy in any one of the following ways:

- You may submit another properly completed proxy card with a later date (which automatically revokes the earlier proxy).
- You may grant a subsequent proxy by telephone or through the internet.
- You may send a timely written notice that you are revoking your proxy to our Secretary at our principal executive offices at One First Avenue, Parris Building 34, Navy Yard Plaza, Third Floor, Boston, Massachusetts 02129.
- You may attend the annual meeting virtually and vote electronically. Simply attending the annual meeting virtually will not, by itself, revoke your proxy. Even if you plan to attend the annual meeting virtually, we recommend that you also submit your proxy or voting instructions or vote by telephone or through the Internet so that your vote will be counted if you later decide not to attend the annual meeting.

Your most current proxy card, telephone proxy or internet proxy is the one that is counted.

Beneficial Owner: Shares Registered in the Name of Broker or Bank

If your shares are held by your broker or bank as a nominee or agent, you should follow the instructions provided by your broker or bank.

How are votes counted?

Votes will be counted by the inspector of election appointed for the annual meeting, who will separately count, for the proposal to elect directors (Proposal 1), votes "For," "Withhold" and broker non-votes; and with respect to all other proposals, votes "For" and "Against," abstentions and, if applicable, broker non-votes. Abstentions will have the same effect as "Against" votes on Proposals 2, 3 and 4, and will have no effect on Proposal 1. Broker non-votes on Proposals 1 and 3 will have no effect and will not be counted towards the vote total for any of those proposals.

What are "broker non-votes"?

As discussed above, when a beneficial owner of shares held in street name does not give voting instructions to his or her broker, bank or other securities intermediary holding his or her shares as to how to vote on matters

deemed to be "non-routine" under NYSE, the broker, bank or other such agent cannot vote the shares. These un-voted shares are counted as "broker non-votes." Proposals 1 and 3 are considered to be "non-routine" under NYSE rules and therefore, we expect broker non-votes to exist in connection with those proposals. Broker non-votes will have no effect on those proposals.

As a reminder, if you are a beneficial owner of shares held in street name, in order to ensure your shares are voted in the way you would prefer, you must provide voting instructions to your broker, bank or other agent by the deadline provided in the materials you receive from your broker, bank or other agent.

How many votes are needed to approve each proposal?

The following table summarizes the minimum vote needed to approve each proposal and the effect of abstentions and broker non-votes.

| Proposal No. | Proposal Description | Vote Required for Approval | Effect of Abstentions | Effect of Broker Non-Votes |
|-----------------|---|---|--------------------------|----------------------------------|
| 1 | Election of directors | Directors will be elected by a plurality of the votes cast by the holders of shares present or represented by proxy and entitled to vote on the election of directors. The seven nominees receiving the most "For" votes will be elected as directors | No effect | No effect |
| 2 | Ratification of the selection of RSM US LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2021 | "For" votes from the holders of a majority of shares present in person or represented by proxy and entitled to vote on the matter | Against | Not applicable(1) |
| 3 | Approval, on an advisory basis, of the compensation of our named executive officers | "For" votes from the holders of a majority of shares present in person or represented by proxy and entitled to vote on the matter | Against | No effect |
| 4 | Amendment of our charter to increase the authorized number of shares of common stock | "For" votes from the holders of a majority of the outstanding shares on the record date | Against | Not applicable(1) |

(1) This proposal is considered to be a "routine" matter under NYSE rules. Accordingly, if you hold your shares in street name and do not provide voting instructions to your broker, bank or other agent that holds your shares, your broker, bank or other agent has discretionary authority under NYSE rules to vote your shares on this proposal.

What is the quorum requirement?

A quorum of stockholders is necessary to hold a valid meeting. A quorum will be present if stockholders holding at least a majority of the outstanding shares entitled to vote are deemed present at the annual meeting in person or represented by proxy. On the record date, there were 215,205,173 shares outstanding and entitled to vote. Thus, the holders of 107,602,587 shares must be deemed present in person or represented by proxy at the annual meeting to have a quorum.

Your shares will be counted towards the quorum only if you submit a valid proxy (or one is submitted on your behalf by your broker, bank or other nominee) or if you vote electronically at the annual meeting. Abstentions and broker non-votes will be counted towards the quorum requirement. If there is no quorum, the holders of a majority of shares deemed present at the annual meeting in person or represented by proxy may adjourn the annual meeting to another date.

How can I find out the results of the voting at the annual meeting?

Preliminary voting results will be announced at the annual meeting. In addition, final voting results will be published in a current report on Form 8-K that we expect to file within four business days after the annual meeting. If final voting results are not available to us in time to file a Form 8-K within four business days after the meeting, we intend to file a Form 8-K to publish preliminary results and, within four business days after the final results are known to us, file an additional Form 8-K to publish the final results.

PROPOSALS

Proposal 1

Election of Directors

Our board of directors presently has eight directors: Christopher Bowden M.D.; Kevin Buchi; Heidi Hagen; James Huang; Robert W. Postma; Mary Thistle; Jaime Vieser; and Holger Weis. Each of Dr. Bowden and Ms. Hagen was previously elected by the stockholders. In March 2021, Mr. Buchi notified our board of directors of his intention to retire as a member our board, effective as of this annual meeting, and, as a result, our board has elected to reduce the size of our board from eight to seven directors at that time.

On March 22, 2021, our board of directors nominated all of our existing directors, other than Mr. Buchi, for election at the annual meeting. If elected, each of our proposed nominees has consented to serve as one of our directors, to hold office until our next annual meeting of stockholders and until his or her successor has been duly elected and qualified, or, if sooner, until his or her earlier death, resignation or removal. Proxies cannot be voted for a greater number of persons than the number of nominees named in the proxy statement. If any director nominee should withdraw or otherwise become unavailable to serve, the proxies which would have otherwise been voted for that director nominee may be voted for a substitute director nominee selected by our board. We are not aware of any reason that a nominee will be unable or unwilling to serve as a director.

The following table sets forth each nominee to be elected at the annual meeting, the year each nominee was first elected as a director, the position(s) currently held by each nominee with us and the year each nominee's term will expire, if such nominee is elected at the annual meeting.

| Name of Nominee | Position(s) with the Company | Year First Became a Director | Year Proposed Term Will Expire |
|-----------------------------|--|---------------------------------|-----------------------------------|
| Christopher Bowden M.D. | Director | 2019 | 2022 |
| Heidi Hagen | Interim Chief Executive Officer and Director | 2019 | 2022 |
| James Huang(1) | Executive Chair | 2020 | 2022 |
| Robert W. Postma(2) | Director | 2021 | 2022 |
| Mary Thistle ⁽³⁾ | Director | 2020 | 2022 |
| Jaime Vieser(4) | Director | 2020 | 2022 |
| Holger Weis(4) | Director | 2020 | 2022 |

- (1) On July 20, 2020, Mr. Huang was elected by the board to fill a vacancy on the board.
- (2) On February 4, 2021, the size of the board was increased from eight to nine directors, and Mr. Postma was elected by the board to fill the newly created directorship.
- (3) On November 15, 2020, Ms. Thistle was elected by the board to fill a vacancy on the board.
- (4) On December 15, 2020, each of Mr. Vieser and Mr. Weis was elected in a stockholder action by written consent in lieu of a meeting of our stockholders under Section 228 of the General Corporation Law of the State of Delaware.

In 2016, we adopted a director resignation policy. Under this policy, any nominee in an uncontested election who does not receive a majority of the votes cast (i.e. receives a greater number of votes "withheld" from his or her election than votes "for" in such election) shall submit his or her offer of resignation for consideration by the corporate governance and nominating committee. The corporate governance and nominating committee shall consider all of the relevant facts and circumstances and recommend to the board the action to be taken with respect to such offer of resignation, and the board will then act on such recommendation.

Our corporate governance and nominating committee seeks to assemble a board that, as a whole, possesses the appropriate balance of professional and industry knowledge, financial expertise and management experience

necessary to oversee and direct our business. The corporate governance and nominating committee maintains a goal of recruiting members who complement and strengthen the skills of other members and who also exhibit integrity, collegiality, sound business judgment and other qualities that the corporate governance and nominating committee views as critical to effective functioning of the board.

None of the director nominees is related by blood, marriage or adoption to any of our other director nominees or executive officers. Further, none of the director nominees is party to an arrangement or understanding with any person pursuant to which the nominee is to be selected or nominated for election as a director, except that certain arrangement described in the section entitled "Certain Relationships and Related Transactions—Certain Related-Party Transactions—WaterMill Settlement Agreement" in this proxy statement.

Vote Required

Directors are elected by a plurality of the votes of the holders of shares deemed present in person or represented by proxy and entitled to vote on the election of directors. Accordingly, if a quorum is present, the seven nominees receiving the highest number of "For" votes will be elected. Shares represented by executed proxies will be voted, if authority to do so is not withheld, for the election of the seven nominees named above.

The board recommends that you vote "FOR" the election of each named nominee.

Proposal 2

Ratification of Selection of Independent Registered Public Accounting Firm

The audit committee of the board has selected RSM US LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2021. RSM US LLP has audited our financial statements since 2010. A representative of RSM US LLP is expected to virtually attend the annual meeting. He or she will have an opportunity to make a statement if he or she so desires and will be available to respond to appropriate questions from stockholders.

We are not required by statute or our bylaws or other governing documents to obtain stockholder ratification of the appointment of RSM US LLP as our independent registered public accounting firm. The audit committee has submitted the selection of RSM US LLP to the stockholders for ratification as a matter of good corporate practice. If the stockholders do not ratify the appointment, the audit committee may reconsider its selection. Notwithstanding the proposed ratification of the selection of RSM US LLP by the stockholders, the audit committee, in its discretion, may direct the appointment of a new independent registered public accounting firm at any time during the year without notice to, or the consent of, the stockholders, if the audit committee determines that such a change would be in our best interests and the best interests of our stockholders.

Vote Required

The affirmative vote of the holders of a majority of the shares deemed present in person or represented by proxy and entitled to vote at the annual meeting will be required to ratify the selection of RSM US LLP. Abstentions will be counted toward the vote total for Proposal 2 and will have the same effect as "Against" votes.

Principal Accountant Fees and Services

The following table presents the aggregate fees billed by RSM US LLP for the years ended December 31, 2020 and 2019.

| Fee Category | 2020 | 2019 |
|----------------|-----------|-----------|
| Audit Fees(1) | \$357,000 | \$350,050 |
| All Other Fees | 18,203(2) | 49,009(3) |
| Total Fees | \$375,203 | \$399,059 |

- (1) Represents fees billed for professional services provided to us in connection with the annual audit of our consolidated financial statements, the review of our quarterly condensed consolidated financial statements, the audit of the effectiveness of our internal controls over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, as well as audit services that are normally provided by an independent registered public accounting firm in connection with statutory and regulatory filings or engagements for those fiscal years, such as statutory audits.
- (2) Represents administrative fees and out-of-pocket costs.
- (3) Represents fees billed for research and analysis regarding new business strategies as well as administrative fees and out-of-pocket costs.

Other than as discussed above, we did not incur any fees of RSM US LLP for audit-related, tax or other services in 2020 or 2019.

All fees described above were pre-approved by the audit committee.

Pre-Approval Policy and Procedures

The audit committee has adopted a policy and procedures for the pre-approval of audit and non-audit services rendered by our independent registered public accounting firm, RSM US LLP. The policy generally pre-approves specified services in the defined categories of audit services, audit-related services and tax services up to specified amounts. Pre-approval may also be given as part of the audit committee's approval of the engagement of the independent registered public accounting firm or on an individual, explicit, case-by-case basis before the independent registered public accounting firm is engaged to provide each service. The pre-approval of services may be delegated to one or more of the audit committee's members, but the decision must be reported to the full audit committee at its next scheduled meeting.

The board recommends that you vote "FOR" the ratification of the selection of RSM US LLP as our independent registered public accounting firm for our fiscal year ending December 31, 2021.

Proposal 3

Advisory Vote on Executive Compensation

Under the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, and Section 14A of the Securities Exchange Act of 1934, as amended, or the Exchange Act, our stockholders are entitled to vote to approve, on an advisory basis, the compensation of our named executive officers as disclosed in this proxy statement in accordance with the SEC rules. At the 2017 annual meeting of stockholders, our stockholders indicated their preference that we solicit a non-binding advisory vote on the compensation of the named executive officers, commonly referred to as a "say-on-pay vote," every year. The board has adopted a policy that is consistent with that preference indicated by our stockholders. Accordingly, this year we are again asking the stockholders to approve, on an advisory basis, the compensation of our named executive officers as disclosed in this proxy statement.

This vote is not intended to address any specific item of compensation, but rather the overall compensation of our named executive officers and the philosophy, policies and practices described in this proxy statement. The compensation of our named executive officers is disclosed in the section entitled "Executive Compensation" below, including the tabular and narrative disclosures set forth in such section under the headings "Executive Compensation Tables" and "Compensation Discussion and Analysis." As discussed in those disclosures, we believe that our compensation policies and decisions are focused on pay-for-performance principles and strongly aligned with our stockholders' interests. Compensation of our named executive officers is designed to enable us to attract and retain talented and experienced executives, whose knowledge, skills and performance are critical to our success, and motivate these executive officers to achieve our business objectives and to lead us in a competitive environment.

We are asking our stockholders to indicate their support for the compensation of our named executive officers as described in this proxy statement by casting a non-binding advisory vote "FOR" the following resolution:

"RESOLVED, that the stockholders hereby approve the compensation of the "named executive officers" of Ziopharm Oncology, Inc., as disclosed in the section entitled "Executive Compensation" in the proxy statement for the Ziopharm Oncology, Inc. 2021 Annual Meeting of Stockholders pursuant to the compensation disclosure rules of the Securities and Exchange Commission, including the Compensation Discussion and Analysis, compensation tables and narrative discussion."

Vote Required

The affirmative vote of the holders of a majority of the shares deemed present in person or represented by proxy and entitled to vote at the annual meeting will be required to approve, on an advisory basis, the compensation of our named executive officers as described herein. Because the vote is advisory, it will not be binding on us, the board or our compensation committee. Nevertheless, the views expressed by our stockholders, whether through this vote or otherwise, are important to us and, accordingly, the board and our compensation committee intend to consider the results of this vote in making determinations in the future regarding executive compensation arrangements.

The board recommends that you vote "FOR" the proposal to approve the compensation of our named executive officers, as described in this proxy statement.

Proposal 4

Approval of Certificate of Amendment of the Amended and Restated Certificate of Incorporation to Increase the Total Number of Authorized Shares of Common Stock

Overview

Our board of directors has determined that it is advisable and in the best interests of the Company and in the best interests of our stockholders to amend our amended and restated certificate of incorporation (our "charter"), to increase the total number of authorized shares of common stock from 250,000,000 shares to 350,000,000 shares. On March 22, 2021, our board of directors adopted resolutions approving the proposed certificate of amendment of our charter (the "certificate of amendment") in substantially the form attached hereto as Appendix A. At that time, our board of directors declared the proposed certificate of amendment to be advisable and in the best interests of the Company and our stockholders and is accordingly submitting the proposed certificate of amendment for approval by our stockholders.

If our stockholders approve this Proposal 4, we expect to file the certificate of amendment with the Secretary of State of the State of Delaware to increase the number of authorized shares of our common stock as soon as practicable following stockholder approval. In this regard, upon filing of the certificate of amendment with the Secretary of State of the State of Delaware, the first paragraph of section four of our charter would be amended as follows, with the proposed additions double-underlined and proposed deletions stricken through:

"4. Number of Shares. The total number of shares of all classes of stock that the Corporation shall have authority to issue is Two Hundred Eighty Million (280,000,000) Three Hundred Eighty Million (380,000,000) shares consisting of: Two Hundred Fifty Million (250,000,000) Three Hundred Fifty Million (350,000,000) shares of common stock, \$.001 par value per share ("Common Stock"); and Thirty Million (30,000,000) shares of preferred stock, \$.001 par value per share ("Preferred Stock")."

Of the 250,000,000 shares of our common stock currently authorized, as of the close of business on March 12, 2021, there were 215,180,173 shares of common stock outstanding. In addition to the 215,180,173 shares of common stock outstanding on March 12, 2021, as of March 12, 2021:

- 5,303,705 shares of our common stock were issuable upon the exercise of options outstanding, having a weighted-average exercise price of \$4.08 per share pursuant to the ZIOPHARM Oncology, Inc. 2012 Equity Incentive Plan (the "2012 Plan");
- 4,634,556 shares of our common stock were issuable upon the exercise of options outstanding, having a weighted-average exercise price of \$3.46 per share pursuant to the ZIOPHARM Oncology, Inc. 2020 Equity Incentive Plan (the "2020 Plan");
- an aggregate of 1,521,887 shares of our common stock were reserved for future issuance under our 2020 Plan; and
- an aggregate of 22,272,727 shares of our common stock were reserved for future issuance pursuant to outstanding warrants.

The proposed certificate of amendment would increase the number of shares of common stock that the Company is authorized to issue from 250,000,000 shares of common stock, representing an increase of 100,000,000 shares of authorized common stock, with a corresponding increase in the total authorized capital stock, which includes common stock and preferred stock, from 280,000,000 shares to 380,000,000 shares.

Reasons for the Increase in Authorized Shares

At present, the board of directors has no arrangements or understandings to issue the additional shares of common stock. However, the board of directors desires to have the shares available to provide additional flexibility to use Company common stock for business and financial purposes in the future as well to have sufficient shares available to provide appropriate equity incentives for our employees. The additional shares may be used for various purposes, which include establishing strategic relationships with other companies; expanding our business through the acquisition of other businesses, therapeutics or product candidates; raising capital; providing equity incentives to employees, officers, directors, consultants and/or advisors; stock splits and stock dividends; and other purposes. For example, we will need to raise substantial additional capital to, among other things, fund our operations, conduct and/or complete clinical trials, continue our research and development activities, seek regulatory approval for our product candidates and commercialize our product candidates, if any such product candidates receive regulatory approval for commercial sale, and the additional shares may be used for a financing if we have an appropriate opportunity. If this Proposal 4 is not approved by our stockholders, it is possible that our business development and financing alternatives for us may be limited by the lack of sufficient unissued and unreserved authorized shares of common stock, and stockholder value may be harmed, perhaps severely, by this limitation. In addition, our success depends in part on our continued ability to attract, retain and motivate highly qualified management and clinical and scientific personnel, and if this Proposal 4 is not approved by our stockholders, the lack of sufficient unissued and unreserved authorized shares of common stock to provide future equity incentive opportunities that our compensation committee deems appropriate could adversely impact our ability to achieve these goals. In summary, if our stockholders do not approve this Proposal 4, we may not be able to access the capital markets, complete corporate collaborations or partnerships, attract, retain and motivate employees, and pursue other business opportunities integral to our growth and success, all of which could severely harm our business and our prospects.

Effects of the Increase in Authorized Shares

The additional common stock to be authorized by stockholder approval of this Proposal 4 would have rights identical to the currently outstanding shares of our common stock. Approval of this Proposal 4 and issuance of the additional authorized shares of common stock would not affect the rights of the holders of currently outstanding shares of our common stock, except for effects incidental to increasing the number of shares of our common stock outstanding, such as dilution of any earnings per share and voting rights of current holders of common stock. The additional shares of common stock authorized by the approval of this Proposal 4 could be issued by our board of directors without further vote of our stockholders except as may be required in particular cases by our charter, applicable law, regulatory agencies or the rules of the Nasdaq. Under our charter, stockholders do not have preemptive rights to subscribe to additional securities that may be issued by us, which means that current stockholders do not have a prior right thereunder to purchase any new issue of common stock in order to maintain their proportionate ownership interests in our Company.

The proposed certificate of amendment to increase the number of authorized shares of our common stock could, under certain circumstances, have an anti-takeover effect. The additional shares of common stock that would become available for issuance if this Proposal 4 is approved could also be used by us to oppose a hostile takeover attempt or to delay or prevent changes in control or our management. For example, without further stockholder approval, the board could adopt a "poison pill" which would, under certain circumstances related to an acquisition of our securities not approved by the board, give certain holders the right to acquire additional shares of common stock at a low price, or the board could strategically sell shares of common stock in a private transaction to purchasers who would oppose a takeover or favor the current board. Although this Proposal 4 to increase the authorized common stock has been prompted by business and financial considerations and not by the threat of any hostile takeover attempt (nor is the board currently aware of any such attempts directed at us), nevertheless, stockholders should be aware that approval of this Proposal 4 could facilitate future efforts by us to deter or prevent changes in control, including transactions in which the stockholders might otherwise receive a premium for their shares over then current market prices.

Abandonment

Although we currently expect that, if this Proposal 4 is approved by our stockholders, we will file the certificate of amendment of our charter with the Secretary of State of the State of Delaware as soon as practicable following stockholder approval, notwithstanding approval of this Proposal 4 by our stockholders, our board of directors may, in its sole discretion, abandon the proposed certificate of amendment of our charter and determine, prior to the filing of certificate of amendment of our charter with the Secretary of State of the State of Delaware, not to effect the proposed amendment to our charter to increase the number of authorized shares of our common stock from 250,000,000 shares to 350,000,000 shares. If this Proposal 4 is approved by our stockholders and our board of directors determines to exercise such discretion, we will publicly disclose that fact and our board of directors' reason or reasons for its determination.

Vote Required

The affirmative vote of the holders of a majority of the outstanding shares on the record date. Abstentions will be counted toward the vote total for Proposal 4 and will have the same effect as "Against" votes.

The board recommends that you vote "FOR" the proposal to approve the amendment of our charter.

STOCKHOLDER PROPOSALS FOR THE 2022 ANNUAL MEETING OF STOCKHOLDERS

For a proposal to be considered for inclusion in our proxy materials for presentation at the 2022 annual meeting of stockholders pursuant to Rule 14a-8 under the Exchange Act, the proposal must be received by our Secretary at our principal executive offices at One First Avenue, Parris Building 34, Navy Yard Plaza, Third Floor, Boston, Massachusetts 02129, by no later than December 8, 2021 unless the date of 2022 annual meeting of stockholders is changed by more than 30 days from the one-year anniversary of this year's annual meeting, in which case the deadline will be a reasonable time before we begin to distribute the proxy materials for the 2022 annual meeting of stockholders. Due to the complexity of the respective rights of the stockholders and us in this area, any stockholder desiring to propose such an action is advised to consult with his or her legal counsel with respect to such rights. We suggest that any such proposal be submitted to us by certified mail, return receipt requested.

Rule 14a-4 under the Exchange Act governs our use of our discretionary proxy voting authority with respect to a stockholder proposal that the stockholder has not sought to include in our proxy statement. Rule 14a-4 provides that if a proponent of a proposal fails to notify us at least 45 days prior to the month and day of mailing of the prior year's proxy statement, management proxyholders will be allowed to use their discretionary voting authority as to whether the proposal is raised at the annual meeting, without any discussion of the matter. If a stockholder wishes to bring a matter before the stockholders at the 2022 annual meeting of stockholders but does not notify us before February 20, 2022 (or a reasonable time before we begin to distribute the proxy materials for the 2022 annual meeting of stockholders if the date of the 2022 annual meeting of stockholders is changed by more than 30 days from the one-year anniversary of this year's annual meeting), for all proxies we receive, the management proxyholders will have discretionary authority to vote on the matter, including discretionary authority to vote in opposition to the stockholder's proposal.

CURRENT DIRECTORS, DIRECTOR NOMINEES AND EXECUTIVE OFFICERS

Our Board of Directors

Set forth below are the names and certain information about each of our directors as of March 12, 2021. The information presented includes each director's age, principal occupation and business experience for the past five years and the names of other public companies of which he or she has served as a director during the past five years. In addition, the table contains information about the specific and particular experience, qualifications, attributes or skills of each current director and each nominee for director at the annual meeting that led the corporate governance and nominating committee to believe that such current director was appropriate for nomination at a previous annual meeting of stockholders and, in the case of each nominee for director at the annual meeting, that such nominee should serve on the board following election at the annual meeting.

| Name | Positions and Offices Held | Director Since | Age |
|----------------------------|--|-------------------|-----|
| Christopher Bowden M.D. | Director | 2019 | 59 |
| Kevin Buchi ⁽¹⁾ | Director | 2020 | 65 |
| Heidi Hagen | Interim Chief Executive Officer and Director | 2019 | 52 |
| James Huang | Executive Chair | 2020 | 55 |
| Robert W. Postma | Director | 2021 | 67 |
| Mary Thistle | Director | 2020 | 61 |
| Jaime Vieser | Director | 2020 | 51 |
| Holger Weis | Director | 2020 | 58 |

(1) Mr. Buchi will be retiring from the board of directors and its committees at the end of his term, which expires at the annual meeting.

Christopher Bowden, M.D. *Director*

Dr. Bowden, an oncology drug development executive with more than 20 years leadership experience including the approval of several cancer medicines, has served as a member of our board since October 2019. He has been the Chief Medical Officer of Agios Pharmaceuticals since May 2014. Previously, Dr. Bowden was Vice President Product Development Oncology, at Genentech for eight years. From 2003 to 2006, he was the Executive Director for EMEA regions for Bristol-Myers Squibb. Earlier, Dr. Bowden held positions of increasing responsibility in oncology clinical development, at Pharmacia Corporation and Janssen Pharmaceutical. Prior to industry, Dr. Bowden was on the oncology faculty at the University of Virginia Health Science Center. From September 2017 to October 2020, Dr. Bowden served as a member of the board of directors of miRagen Therapeutics, Inc., a publicly-traded biopharmaceutical company discovering and developing proprietary RNA-targeted therapies with a specific focus on microRNAs. Dr. Bowden received his M.D. from Hahnemann University School of Medicine followed by internal medicine training at Roger Williams Medical Center and the Providence VA Medical Center, Rhode Island. He completed his medical oncology fellowship at the National Cancer Institute Medicine Branch. Dr. Bowden is board certified in internal medicine and medical oncology.

The board believes that Dr. Bowden's extensive background in drug development and leadership experience at several leading life science and pharmaceutical companies qualifies him to serve on the board.

Heidi Hagen Director

James Huang Director Ms. Hagen has served as our Interim Chief Executive Officer since February 2021 and as a member of our board since June 2019. Ms. Hagen has held the position of a biotechnology and pharmaceutical operations and technology consultant with HH Consulting LLC since October 2012. From October 2015 until March 2020, Ms. Hagen served as Co-founder and Chief Strategic Officer for Vineti, Inc., a privately-held company that develops and sells cloud-based software platforms for ordering, manufacturing and delivering personalized medicines. Ms. Hagen currently is an advisor to Vineti, Inc. Previously, Ms. Hagen served as interim Chief Commercial Officer at ZappRx, Inc. from January 2015 to June 2015. Prior to that, Ms. Hagen served as Global Chief Operating Officer at Sotio LLC, a biotechnology company developing new therapies for the treatment of cancer and autoimmune diseases using its immunotherapy platform and proprietary cell-based technologies, from March 2013 to April 2014. Prior to joining Sotio, Ms. Hagen was Senior Vice President of Operations at Dendreon Corporation from 2002 to 2012, where she was responsible for, among other duties, manufacturing and supply chain operations. Prior to joining Dendreon, Ms. Hagen spent nearly ten years at Immunex Corporation, where she held several positions in drug development and supply chain and operations management. Ms. Hagen has served on the board of directors of Vericel Inc., a publicly-held company developing advanced cell therapies and specialty biologics for the sports medicine and severe burn care markets, since August 2013, and on the board of directors of Lykan Biosciences LLC, a privately held contract manufacturing company, since June 2019. Ms. Hagen earned her B.S. in cell and molecular biology, M.S. in bioengineering, and MBA at the University of Washington. The board believes that Ms. Hagen's background and extensive experience as a life sciences executive, with a particular focus on cell therapy manufacturing qualifies her to serve on the board.

Mr. Huang has served as a member of our board since July 2020, our Chair from January 2021 until February 2021, and our Executive Chair since February 2021. Mr. Huang joined Kleiner Perkins Caufield & Byers China, or KPCB China, as a managing partner in 2011 and focuses on the firm's life sciences practice. Prior to joining KPCB China, Mr. Huang was a managing partner at Vivo Ventures, a venture capital firm specializing in life sciences investments. Before joining Vivo in 2007, Mr. Huang was president of Anesiva, a biopharmaceutical company focused on pain-management treatments. During his 20-year career in the pharmaceutical and biotech industry, he also held senior roles in business development, sales, marketing and R&D with Tularik Inc. (acquired by Amgen), GlaxoSmithKline LLC, Bristol-Myers Squibb and ALZA Corp. (acquired by Johnson & Johnson). Mr. Huang is also founding and managing partner of Panacea Venture, a global venture fund focusing on investments in innovative and transformative early and growth stage healthcare

Robert W. Postma *Director*

Mary Thistle Director

Jaime Vieser Director and life science companies. Mr. Huang is Chairman of the Board at Kindstar Global (Beijing) Technology, Inc., Windtree Therapeutics, Inc., JHL Biotech, Inc., Tactiva Therapeutics, LLC, and Chime Biologics Limited and Director at CASI Pharmaceuticals Inc. and XW Laboratories Inc. Mr. Huang received an M.B.A. from the Stanford Graduate School of Business and a B.S. degree in chemical engineering from the University of California, Berkeley.

The board believes that Mr. Huang's extensive experience in life science investments and serving on the boards of directors of a number of life sciences and pharmaceutical companies qualifies him to serve on the board.

Mr. Postma has served as a member of our board since February 2021. Mr. Postma has also served as the principal of WaterMill Asset Management Corp., a company which he founded in July 1999. WaterMill actively trades in municipal bonds and equities, using the funds of Mr. Postma. Mr. Postma has over 44 years of trading experience and received a Bachelor of Arts degree in Business and Economics from Lafayette College.

The board believes that Mr. Postma's management and trading experience allows Mr. Postma to provide financial guidance to us and qualifies him to serve on the board.

Ms. Thistle has served as a member of our board since November 2020. Ms. Thistle has served as Special Advisor to the Bill & Melinda Gates Medical Research Institute, a non-profit biotech organization, since October 2020, and was its Chief of Staff from January 2018 until October 2020. Prior to then, she held senior leadership positions at Dimension Therapeutics, Inc., a gene therapy company, including serving as its Chief Operating Officer from 2016 to 2017 and Chief Business Officer from 2015 to 2016. Prior to joining Dimension Therapeutics, Inc., she spent six years at Cubist Pharmaceuticals, Inc., a biopharmaceutical company, where she held various leadership positions, including serving as its Senior Vice President, Business Development from 2014 to 2015, Vice President, Business Development from 2012 to 2013 and Senior Director, Business Development from 2009 to 2012. Prior to then, she held various positions at ViaCell, Inc. and PerkinElmer Inc. Ms. Thistle serves as a member of the boards of directors of Homology Medicines, Inc., Enterome SA and Cocoon Biotech Inc. Ms. Thistle holds a B.S. in Accounting from the University of Massachusetts, Boston. The board believes that Ms. Thistle's perspective, financial expertise, business development and leadership experience at several biopharmaceutical companies provides her with the qualifications and skills to serve on the board.

Mr. Vieser has served as a member of our board since December 2020. Mr. Vieser has managed Brushwood LLC, a private investment firm, since January 2017. From 2010 to December 2016, he was a Managing Partner and co-principal of Castle Hill Asset Management LLC, a multi-billion dollar asset manager and

Holger Weis Director hedge fund. Prior to founding Castle Hill, Mr. Vieser was responsible for Deutsche Bank AG's, a multinational investment bank and financial services company, High Yield Sales and Trading Group in London from 1998 to 2008. He originally joined Bankers Trust Company, a bank holding company, in New York in 1994 (later acquired by Deutsche Bank in 1999) and worked in the Leveraged Finance division. Mr. Vieser graduated from the University of Michigan with a degree in Economics and from the Cox School of Business at Southern Methodist University with a Master's in Business Administration. The board believes that Mr. Vieser's financial expertise and investment experience allows Mr. Vieser to provide business to us and qualifies him to serve on the board.

Mr. Weis has served as a member of our board since December 2020. Mr. Weis serves as the principal of Weis Advisors, Inc., a company that provides consulting services to life science companies, since founding the company in April 2018. He has also served as the Chief Financial Officer and Director of PhenoTarget Biosciences, Inc., a biotech start-up company from April 2020 to March 2021. Prior to that, he served in a number of roles at DemeRx, Inc., a clinical stage pharmaceutical company developing nonaddictive treatments for drug addiction, including serving as Chief Operating Officer and Chief Financial Officer from December 2011 to July 2017, and also as President from September 2014 to July 2017, and as a Consultant from July 2017 to April 2018. Earlier in his career, Mr. Weis served as the Chief Financial Officer of EnSA Holdings, LLC, a company that focuses on environmentally sustainable agriculture techniques and technologies for the production of rice, from August 2010 to November 2011. From 2006 to 2010, he served as the Vice President & Chief Financial Officer, Secretary and Treasurer of NovaVision, Inc., a therapeutic and diagnostic vision restoration company. Prior to that, he served as the Chief Financial Officer & Treasurer of GMP Companies, Inc., a company that develops and commercializes pharmaceutical, medical device and diagnostic technologies, from 2000 to 2005. Earlier in his career, Mr. Weis served as a Senior Manager at Ernst & Young, a multinational professional services company, from 1986 to 2000. Mr. Weis has co-authored a number of scientific papers and presentations and is an inventor on a number of patents and patent applications. Mr. Weis received a Bachelor of Business Administration in Accounting from the University of Georgia and is a Certified Public Accountant. The board believes that Mr. Weis's management and industry experience, as well as his financial expertise, qualify him to serve on the board.

Our Executive Officers

The following table sets forth certain information concerning our executive officers as of March 12, 2021.

| Name | Position(s) | Age |
|-----------------------------|--|-----|
| Heidi Hagen | Interim Chief Executive Officer and Director | 52 |
| Timothy Cunningham | Interim Chief Financial Officer | 59 |
| Raffaele Baffa, M.D., Ph.D. | Chief Medical Officer | 60 |
| Robert Hadfield | Chief Legal Officer and Secretary | 43 |
| Eleanor de Groot, Ph.D. | Executive Vice President, General Manager, Cell Therapy | 52 |
| Kevin G. Lafond | Sr. Vice President Finance, Chief Accounting Officer and Treasurer | 65 |

Heidi Hagen Interim Chief Executive Officer and Director

Timothy Cunningham
Interim Chief Financial Officer

Raffaele Baffa, M.D., Ph.D. Chief Medical Officer

Ms. Hagen's biography is included above under the section titled "Our Board of Directors."

Mr. Cunningham has served as our Interim Chief Financial Officer since February 2021. Mr. Cunningham brings over 30 years of extensive finance and operations leadership experience in the biotechnology and software industries. He has been employed by Danforth Advisors, LLC since September 2020, providing financial consulting services on a project/interim basis for public and private life sciences companies. From July 2016 to August 2020, he served as chief financial officer at Organogenesis Inc., where he led the company through its initial public offering process and several subsequent public offering raises. From 2014 to 2015, he served as senior vice president and chief financial officer at DialogTech. Mr. Cunningham originally started his career with KPMG and PricewaterhouseCoopers. He holds an M.B.A. from Boston University, a B.S. in Accounting from Boston College and is a CPA in the states of New York and Florida.

Dr. Baffa has served as our Chief Medical Officer since November 2020. Prior to joining us, Dr. Baffa served as Head of R&D and Chief Medical Officer for Medisix, an immune engineering company developing novel cellular therapies to address T cell malignancies, from April 2020 to November 2020. Previously, Dr. Baffa was Vice President and Therapeutic Area Head of Oncology, Global Clinical Development for Shire from February 2018 to September 2018, and, subsequent to the acquisition of the oncology division by Servier, he served as Chief Medical Officer of Servier Pharmaceuticals from September 2018 to March 2020. Raffaele has also held industry leadership positions as Executive Director, Early Oncology Development and Clinical Research at Pfizer from May 2015 to February 2018 and at Sanofi, where he was Head of Translational Sciences – External Science & Innovation, Global Biotherapeutics from November 2013 to May 2015 and Senior Director – Translational and Experimental Medicine, Early Development, Oncology from November 2010 to October 2013. Dr. Baffa earned an M.D. from University of Padova, School of Medicine,

Robert Hadfield, Chief Legal Officer and Secretary

Eleanor de Groot, Ph.D.

Executive Vice President, General Manager, Cell Therapy

Kevin G. Lafond Sr. Vice President – Finance, Chief Accounting Officer and Treasurer and a Ph.D. from University of Parma, both in Italy. As an associate professor at the Kimmel Cancer Center, Thomas Jefferson University in Philadelphia, he also served as Director of Urology Research and as Co-Director of the Genito-Urinary Cancer Program. Dr. Baffa has authored more than 100 peer-reviewed articles, invited articles and book chapters.

Mr. Hadfield has served as our Chief Legal Officer and Secretary since January 2021, and Mr. Hadfield was previously our Executive Vice President, General Counsel, Secretary and Chief Compliance Officer from December 2018 until January 2021, and our General Counsel and Secretary from April 2018 until December 2018. Previously, Mr. Hadfield was the General Counsel of Longwood Fund, a health care venture capital fund, from November 2017 until April 2018. Prior to Longwood Fund, Mr. Hadfield was the General Counsel of Flex Pharma, Inc. from April 2014 until November 2017. Mr. Hadfield was an attorney in the business department of Cooley LLP from August 2007 to August 2011 and then from April 2012 to April 2014. From August 2011 to April 2012, Mr. Hadfield served as the Corporate Counsel at Kiva Systems, Inc. prior to its acquisition by Amazon.com, Inc. Mr. Hadfield began his career as a financial analyst in the health care investment banking group of Cowen Inc. Mr. Hadfield holds a B.S. degree in Finance from Providence College and a J.D. from the Georgetown University Law Center.

Dr. de Groot has served as our Executive Vice President, General Manager Cell Therapy since January 2019 and oversees our CAR-T and TCR-T cell therapy platform, including the collaboration with MD Anderson. She initially joined us in July 2015 as our Senior Vice President, Program Management and Business Development. Prior to joining us, Dr. de Groot was Vice President of Technical Operations and Project Planning and Management at Helsinn Therapeutics US, Inc. While at Helsinn and its predecessor companies, Sapphire Therapeutics and Rejuvenon Corporation, Dr. de Groot held multiple roles of increasing responsibility, leading technical operations, in particular chemistry, manufacturing, and controls (CMC) development for its drug candidates from preclinical through Phase III, from April 2002 to July 2015. Prior to Helsinn, Dr. de Groot was a staff engineer at Guilford Pharmaceuticals (now Eisai) and a process engineer at Shell Chemical Company. She earned Ph.D. and M.S. degrees in chemical engineering from Stanford University in 1995 and 1991, respectively, and a B.S. in chemical engineering from Massachusetts Institute of Technology (MIT) in 1990. Dr. de Groot received an M.B.A. degree from Rice University in 2014.

Mr. Lafond has served as our Sr. Vice President Finance, Chief Accounting Officer and Treasurer since June 2013 and is our principal accounting officer. Previously, Mr. Lafond served as our Corporate Controller since he joined us in February 2009 until June 2013. Prior to joining us, Mr. Lafond served as Controller of

Helicos Biosciences Corporation, a public life sciences equipment manufacturer, from February 2007 to October 2008. Mr. Lafond holds a bachelor's degree from Plymouth State University, master's degrees in both accounting and taxation from Bentley University and is a Certified Public Accountant.

There are no family relationships among any of our directors, director nominees or executive officers. None of our executive officers is related by blood, marriage or adoption to any of our directors, director nominees or executive officers.

EXECUTIVE COMPENSATION

Compensation Discussion and Analysis

This Compensation Discussion and Analysis explains our executive compensation philosophy and objectives, programs and practices and the material elements of 2020 compensation for our named executive officers. There is also discussion of the 2021 compensation decisions for our new Interim Chief Executive Officer, our Interim Chief Financial Officer and our former Chief Executive Officer. As discussed in Proposal 3 of this proxy statement, we are conducting our annual advisory vote on executive compensation, or "say-on-pay" vote, that requests approval of the compensation provided to our named executive officers, as described in this subsection titled "—Compensation Discussion and Analysis" and in the tables and accompanying narrative contained below under this section "Executive Compensation." Please review our compensation philosophies, the design of our executive compensation programs in the context of this say-on-pay vote.

For 2020, our named executive officers were:

- Dr. Laurence James Neil Cooper, our former President and Chief Executive Officer and a current scientific advisor employee of the Company;
- · Satyavrat Shukla, our former Chief Financial Officer;
- Dr. Raffaele Baffa, our Chief Medical Officer;
- · Robert Hadfield, our Chief Legal Officer and Secretary; and
- Dr. Eleanor de Groot, our Executive Vice President, Cell Therapy

Executive Summary

Business Highlights

During 2020 and the first quarter of 2021, we evolved our focus to our cell therapy programs and, in particular, our TCR-T program. During this period, we made significant progress advancing this program and our CAR-T and Controlled IL-12 programs, which included the following achievements:

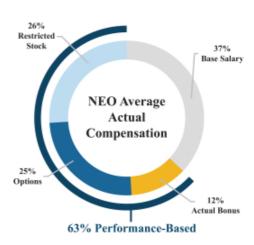
- Conducted the pre-clinical work that enabled preparation and filing of our company-sponsored investigational new drug, or IND, application for our Phase 1/2 clinical trial utilizing six "hotspot" TCRs from our library, which we announced had been cleared by U.S. Food and Drug Administration, or the FDA, in February 2021
- Announced that the Taiwan Food and Drug Administration has cleared an IND application by Eden BioCell, our joint venture with
 TriArm Therapeutics, for a phase 1 clinical trial to evaluate patient-derived CD19-specific CAR-T, using our Rapid Personalized
 Manufacturing (RPM) technology. This is an investigational treatment for patients with relapsed CD19+ leukemias and lymphomas
 and the first clinical study of autologous non-viral CD19-specific CAR-T in Taiwan
- Made significant progress building critical manufacturing infrastructure, hiring personnel and adding R&D capabilities to support
 our clinical activities, including the buildout of our laboratory and office space on MD Anderson's campus which will support our
 internal research and development activities
- Established processes in-house for neoantigen identification, TCR hunting, and TCR-T manufacturing process development, which will continue to be optimized to increase efficiencies and to reduce the time required to treat patients
- Completed enrollment in all our Phase 1 and 2 clinical trials of patients with recurrent glioblastoma multiforme (rGBM) for our Controlled IL-12 program
- Presented encouraging interim data results for our Controlled IL-12 clinical trials at the 2020 American Society of Clinical Oncology (ASCO) Annual (Virtual) and the 2020 Society for Neuro-Oncology (SNO) Annual Meeting.

Compensation Highlights

Key features of our executive compensation program include the following:

- *No COVID-19 changes to our 2020 executive compensation program.* Throughout the year, we reviewed our executive compensation program in light of the current and future potential impacts of the ongoing COVID-19 pandemic and, in consultation with our independent compensation consultant, ultimately decided not to make any changes to our executive compensation program in effect for 2020.
- We tie pay to performance and emphasize "at risk" compensation. Our compensation committee structures a significant portion of our named executive officers' target total direct compensation (consisting of base salary, an annual performance bonus opportunity and equity awards) to be variable, at risk and tied directly to our performance over the short- and long-term. The following chart shows the portion of the 2020 total direct compensation of our former Chief Executive Officer and our other named executive officers that was "at-risk" in that its value is dependent upon our achievement of corporate objectives or stock price performance, consisting of annual performance bonus earned and the accounting value of equity awards granted, as reported in our Summary Compensation Table below:





- The annual performance bonuses are tied to meeting key corporate objectives. Our annual performance bonus opportunities for our named executive officers are tied to our achievement of annual corporate objectives established each year. No bonuses are guaranteed.
- We engage with our stockholders to understand their views on our executive compensation program and make changes where appropriate, as described in the section below entitled "Stockholder Engagement."
- Our severance payments are reasonable in amount, and we do not provide our named executive officers with any 280G tax gross ups in connection with a change in control.
- We have adopted stock ownership guidelines. In April 2019, we adopted stock ownership guidelines, which ensure that our officers and directors will maintain a meaningful equity stake in our Company. These guidelines require our Chief Executive Officer to own equity interests in our Company with a value equal to 3x times base salary, each other senior executive officer to own equity interests with a value equal to 1x time such officer's respective base salary, and all non-employee members of the board to own equity interests with a value equal to 3x times their respective director's annual retainer, each as calculated under our policy.
- Our compensation committee has retained an independent compensation consultant to provide assistance in the discharge of its responsibilities.

Stockholder Engagement

In response to shareholder feedback, the board and compensation committee recently implemented the following governance changes:

- enhanced the disclosure regarding the performance metrics for our annual performance bonus plan;
- implemented ownership guidelines pursuant to which, after a phase-in period, directors and officers will be required to maintain minimum holdings of stock options and/or our common stock;
- implemented a more traditional leadership structure for the board, with a board chair rather than lead director; and
- updated our corporate governance policies to reflect the importance we place on diversity. In particular, our policies now provide that any
 search firm retained to assist the corporate governance and nominating committee in seeking candidates for the board of directors will be
 instructed to seek to include diverse candidates in terms of race, gender, geography, thought, viewpoints, backgrounds, skills, experience,
 and expertise.

Beginning in early 2020, we began engaging with several investors to understand their perspectives regarding our business and organization. At our 2020 annual meeting of stockholders in June 2020, three of our directors, Scott Braunstein, Elan Ezickson and Douglas Pagan, received less than 50% of the total votes cast, and an amendment to our certificate of incorporation to increase our authorized number of shares was not approved. At the 2020 annual meeting, our stockholders approved, on an advisory basis, the compensation of our named executive officers but the proposal was supported by only approximately 56.7% of the total votes cast.

The board of directors felt it was important to understand the reasons for the results at the 2020 annual meeting and, therefore, we engaged with several stockholders to discuss this outcome. On July 20, 2020, following feedback from several of our largest stockholders, James Huang was appointed as a director by the board of directors. In addition, the board of directors and management began preparations to expand our discussions with stockholders to understand the perspectives of a broader group.

In October 2020, Watermill Asset Management Corp., Robert W. Postma, Jaime Vieser and Holger Weis (collectively, "Watermill") initiated a consent solicitation to, among other things, remove Scott Braunstein, Kevin Buchi, Elan Ezickson and Scott Tarriff from the board of directors and to replace them with Messrs. Postma, Vieser and Weis. In response to the consent solicitation by Watermill, we engaged in a dialogue with several of our largest stockholders to understand their views on the board, compensation matters and company performance. The feedback we received from stockholders in these conversations related primarily to our approach to investor communications and engagement, capital allocation and company performance.

The board of directors had also begun national searches to identify new directors to replace the directors that had received less than 50% of the votes cast at the 2020 annual meeting, each of whom had tendered his resignation for the board's consideration under our director resignation policy. As a result of this search, on September 21, 2020, Kevin Buchi was appointed by the board to replace Mr. Pagan, and on November 15, 2020, Mary Thistle was appointed by the board to replace Dr. Braunstein. On December 3, 2020, Mr. Ezickson resigned from the board, effective immediately.

On December 10, 2020, Mr. Shukla, our Chief Financial Officer, delivered notice of his resignation effective December 31, 2020 in order to pursue another opportunity.

On December 15, 2020, Watermill delivered consents for stockholder action by written consent in lieu of a meeting removing Mr. Tarriff and adding Messrs. Vieser and Weis to the board of directors. As described more fully below, on February 4, 2021, we entered into a settlement agreement with Mr. Postma, pursuant to which Mr. Postma was appointed to the board of directors.

On February 24, 2021, Ms. Hagen was appointed our Interim Chief Executive Officer, replacing Dr. Cooper, who also resigned from our board of directors on February 24, 2021. Given the recent IND clearance for our TCR-T clinical trial and our transition to a clinical stage cell therapy company, the board of directors believed we would benefit from Ms. Hagen's deep experience in cell and gene therapy, and her extensive experience in operations management and commercializing innovative technologies. Given Mr. Huang's significant background launching, building and raising capital for leading biotechnology companies, the board of directors also elected Mr. Huang as our Executive Chair on February 24, 2021.

The board of directors and management expect to continue improving upon our engagement with our stockholders to understand their views of our business, corporate governance practices and compensation practices. Our compensation committee generally evaluates our compensation practices at or near the end of each year and will continue to monitor and evaluate our executive compensation program throughout the year in light of our stockholders' views, before making any appropriate adjustments during the 2021 year-end compensation review process. Our compensation committee expects to continue to consider the outcome of our "say on pay" votes and our stockholders' views when making future compensation decisions for our named executive officers.

Overview of our Executive Compensation Program

Objectives, Philosophy and Elements of Compensation

We believe that our executive compensation programs should:

- (i) be tied to overall Company performance;
- (ii) reflect each executive's level of responsibility, performance and contributions;
- (iii) include a significant equity component to ensure alignment of each executive's interests with our stockholders; and
- (iv) provide competitive total compensation opportunities, consistent with our performance, that allow us to attract, retain and motivate talented employees, including our named executive officers.

We believe that by structuring the executive compensation program so that a significant portion of our named executive officers' pay is at risk, including a meaningful equity-based component, we can best ensure our named executive officers are incentivized to maximize our performance and increase value for our stockholders. To this end, our program is comprised of three primary elements:

| Compensation Element | Objective | Key Features |
|---|--|---|
| Base Salary (fixed cash) | To attract and retain executives. | Fixed compensation that is competitive with peer company data and that recognizes each executive's position, role, responsibility and experience. |
| Annual Performance Bonus (at-risk cash) | To motivate and reward the achievement of our short-term strategic and business goals that support our longer term objectives. | Target annual performance bonus opportunities, which are expressed as a percentage of base salary, are reviewed annually. |
| | | Actual bonus payments are determined at the end of the year and are dependent upon the actual achievement of specific corporate performance objectives, determined by our compensation committee and the board of directors. |
| | 26 | |

Compensation Element

Equity Awards (at-risk equity)

Objective

Motivates and rewards for long-term company performance; aligns executives' interests with stockholder interests and changes in stockholder value. Attracts highly qualified executives and encourages their continued employment over the long-term.

Key Features

Stock options and restricted stock awards that are subject to multi-year vesting based on continued service.

Individual awards are determined based on a number of factors, including current corporate and individual performance, outstanding equity holdings and their retention value and total ownership, internal equity among executives and competitive market data provided by our compensation committee's compensation consultant.

Other Significant Factors in Determining Executive Compensation

The biotechnology industry is characterized by a very long product development cycle, including a lengthy research and development period and a rigorous approval phase involving preclinical studies, clinical trials and governmental regulatory approval. As a result, many of the traditional commercial product metrics, such as product sales, revenues and profits are irrelevant for a development-stage biotechnology company like us. Instead, the specific performance factors our compensation committee considers when determining the compensation of our named executive officers include factors related to development progress, commercialization progress, and cash/expense management, which are typical pre-commercial drug development metrics:

- key research and development achievements, including advances in our Cell Therapy platforms;
- initiation and progress of clinical trials for our product candidates and continued development of our product candidate pipeline;
- expansion of our research and development and manufacturing infrastructure;
- achievement of scientific and regulatory milestones;
- establishment and maintenance of key strategic relationships, collaborations and new business initiatives; and
- · achievement of extension of cash runway, including financings and other capital raising initiatives.

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

Role of our Compensation Committee, Management and Consultant

Compensation Committee

Our compensation committee is responsible for reviewing, evaluating, approving, administering and interpreting our executive compensation and benefits policies, programs and plans, including our equity compensation plans. In particular, with respect to the compensation of our named executive officers, our

compensation committee is responsible for reviewing and recommending to the outside, independent and non-employee members of the board of directors the compensation levels and performance goals relevant to the compensation of these officers, and for evaluating the officers' performance in light of those goals and objectives. The outside, independent and non-employee members of the board of directors approved the compensation committee's recommendations for the 2020 compensation of our named executive officers.

Management

Our human resources, finance and legal departments work with our Chief Executive Officer to design and develop new executive compensation programs, to recommend changes to existing compensation programs, to recommend financial and other performance targets to be achieved under those programs, to prepare analyses of financial data, to prepare peer group data comparisons and other briefing materials for consideration by the compensation committee and ultimately, to implement the decisions of the compensation committee.

The Chief Executive Officer recommends to the compensation committee for its discussion and ultimately, approval, proposed corporate performance and strategic goals and their relative weighting for the upcoming fiscal year, and provides input on the level of attainment of the prior year's strategic goals, for purposes of determining awards under the annual performance bonus plan for all our executives, including the Chief Executive Officer. For executives other than the Chief Executive Officer, the compensation committee will consider the individual performance of the executives, as assessed by the Chief Executive Officer, and the compensation recommendations submitted to the compensation committee by the Chief Executive Officer. Our Chief Executive Officer and other members of management generally attend our compensation committee meetings for a portion of the meeting. No executive officer was present or voted in the compensation committee or the board of directors' final determinations regarding the amount of any component of his or her own 2020 compensation package.

Consultant

During 2019 and early 2020, the compensation committee engaged Haigh and Company, or Haigh, as an independent compensation consultant. Haigh was engaged by and reported directly to the compensation committee and was determined to have no conflicts of interests in a review conducted by the compensation committee.

As part of its duties, Haigh provided the compensation committee with the following services:

- completed a competitive analysis of our executive compensation program;
- prepared a competitive analysis of the board of directors' compensation program, including observations and recommendations; and
- · reviewed and updated our peer group for use in determining executive compensation.

Beginning in March 2020, our compensation committee engaged FW Cook as its independent compensation consultant. FW Cook provided independent market findings to the compensation committee in August 2020 and has provided advice to the compensation committee as to Interim Chief Executive Officer compensation and non-employee director compensation in 2021. FW Cook was determined to be free of conflicts of interest and able to operate as an independent compensation advisor.

Peer Group, Survey Sources and Market Data

Peer Group

In November 2019, in consultation with Haigh, the compensation committee evaluated the list of companies that should be included in the peer group used as a reference point in making 2020 executive compensation decisions, which we refer to as the 2019 peer group. The selected 2019 peer group companies were chosen based upon the following selection criteria:

• U.S. public life science companies with clinical pipeline but not fully commercial;

- companies with 20 to 100 employees;
- companies with market values between \$500 million to \$2 billion; and
- companies with R&D expense between \$30 million and \$100 million annually.

The compensation committee determined that the foregoing selection criteria were relevant for selecting the 2019 peer group because at such time we had approximately 65 employees, a market value of approximately \$771.9 million and an R&D trailing expense of approximately \$35.9 million. The following 19 companies were approved by the compensation committee as the 2019 peer group to be used for purposes of setting 2020 base salary and bonus target levels for our executives:

AnaptysBio, Inc.
Arqule Inc.
Arvinas, Inc.
Calithera Biosciences, Inc.
Cara Therapeutics, Inc.
Chemocentryx Inc.
Concert Pharmaceuticals, Inc.

CytomX Therapeutics, Inc.
Deciphera Pharmaceuticals, Inc.
Dicerna Pharmaceuticals, Inc.
Editas Medicine, Inc.
Epizyme, Inc.
Fate Therapeutics Inc.

G1 Therapeutics Inc. Geron Corp. Kura Oncology, Inc. Magenta Therapeutics, Inc. Syros Pharmaceuticals, Inc. TG Therapeutics, Inc.

In 2020, the compensation committee reevaluated the 2019 peer group to determine whether it should also be used as a reference point in making 2021 executive compensation decisions. Based on its evaluation, the compensation committee decided that the 2019 peer group remained appropriate, except that Arqule, Inc. was removed because it had been acquired.

2020 Compensation Decisions

Overview

As a general approach, the compensation committee reviews each component and the total compensation for each named executive officer to ensure their compensation is in line with the peer group and/or survey market data. The compensation committee does not target a specific percentile and references market data as context.

All of the named executive officers in 2020 had total compensation value, as disclosed in the Summary Compensation Table, that was below the median of the peer group data provided to the compensation committee, except that the compensation of Dr. de Groot, our EVP GM Cell Therapy, was slightly above the median based on her importance to the Company and to ensure internally equitable relationships with the other officers. Further, all named executive officers had lower total compensation in 2020 than in 2019.

Base Salary

Our compensation committee generally reviews base salaries in the first quarter of the year with adjusted salaries becoming effective retroactively as of January 1 of the fiscal year. In addition to considering the peer group and/or other survey market data, the compensation committee considers, among other factors, our performance, stock price appreciation, individual performance, experience, and the breadth of each position's role.

When determining the 2020 base salaries of our named executive officers, the compensation committee considered 2019 performance, that the base salaries of Dr. Cooper, Mr. Hadfield and Dr. de Groot were increased significantly in 2019 and that Mr. Shukla's salary was below the 2019 peer group data. These factors played a role in the compensation committee's determination not to increase Dr. Cooper's base salary and to increase the base salaries of Mr. Hadfield and Dr. de Groot by only 2.0%. The compensation committee increased the base salary of Mr. Shukla's by 5.1% to position his salary near the middle of market data. As noted above, Dr. Baffa was hired in 2020, and therefore, Dr. Baffa was not eligible for an increase in his base salary in 2020.

| Named Executive Officer | 2019 Base Salary (\$) | 2020 Base Salary (\$) | Percentage Increase from 2019 |
|----------------------------|-----------------------|-----------------------|-------------------------------------|
| Laurence James Neil Cooper | 573,000 | 573,000 | 0.0 |
| Satyavrat Shukla | 390,000 | 410,000 | 5.1 |
| Raffaele Baffa | _ | 465,000(1) | _ |
| Robert Hadfield | 370,000 | 377,500 | 2.0 |
| Eleanor de Groot | 350,000 | 357,000 | 2.0 |

(1) Amount shown is Dr. Baffa's annual base salary rate for 2020. Dr. Baffa's actual 2020 base salary was pro-rated based on his November 15, 2020 start date.

Annual Incentive Compensation.

An important component of our total compensation program is the annual cash incentive, which is based on the achievement of annual company performance objectives and individual executive performance. Our compensation committee recognizes the important role that variable cash compensation plays in attracting and retaining executives, as well as focusing executives (and all other employees) on the achievement of key annual financial, research, clinical, business development and individual goals.

The compensation committee generally places a significant amount of our named executive officers' target cash compensation at risk and tied to achievement of our performance goals. This also serves as an important incentive and retention purpose in the highly competitive Greater Boston/Cambridge, Massachusetts area and national and international biotechnology employment marketplace within which we compete for top executive talent. The 2020 target bonus amount for Dr. Cooper was specified in his employment agreement with the Company and remained unchanged from 2019. The 2020 target bonus as a percent of base salary for Mr. Shukla, Mr. Hadfield and Dr. de Groot was 40%, which remained unchanged from 2019 levels, reflecting competitive and adequate performance incentive consistent with his or her level of responsibility for attaining our corporate performance objectives. As noted above, Dr. Baffa was hired in 2020 and his target bonus as a percent of base salary is also 40% as specified in his employment agreement with the Company.

2020 Annual Performance Objectives

In the first quarter of each year, the board of directors, in consultation with management, establishes Company goals that are used to assess management's performance during the year. The Company goals are directed toward the advancement of our Cell Therapy and Controlled IL-12 platforms and other corporate or business development activities and financial objectives. The board of directors had the discretion under the 2020 annual cash incentive program to adjust upward or downward any cash incentive award and/or the bonus pool as it deemed appropriate, including for qualitative factors such as degree of success, timing of achievement, and developments and achievements not contemplated at the time the performance goals were established.

During the year, the board of directors approved modest changes to the goals for the Controlled IL-12 platform as a result of a shift in our strategic priorities. The board of directors did not make any adjustments to our objectives as a result of the impact of the ongoing COVID-19 pandemic.

Program
Cell Therapy Platform

Weighting

50%

The table below describes the objectives established for 2020, along with the compensation committee's and board of directors' assessment of our achievement of these objectives:

Advance clinical TCR-T program under

company-sponsored IND

Board of Directors' Assessment

The board of determined that all of the goals

supporting the cell therapy objectives had

| | | Advance technology and infrastructure at | been achieved, which included: |
|---------------------------|-------|--|---|
| | | the Company to provide more direct control over program deliverables | Preparing for the IND submission of our TCR-T clinical trial |
| | | Advance CD19 mbIL15 RPM process to establish clinical proof-of-concept | Establishing technical expertise necessary to begin expanding our TCR library |
| | | | Establishing our R&D physical infrastructure and advance process improvements |
| | | | Supporting Eden BioCell's efforts to general initial data in our CAR-T program |
| Controlled IL-12 Platform | 20% • | Advance clinical program and the infrastructure to provide more direct control over program deliverables | The board of determined that most of the goals supporting the Controlled IL-12 platform objectives had been achieved, which included: |
| | | | Goals relating to enrolling patients in existing rGBM clinical trials and potential expansion to other indications |
| | | | Establishing manufacturing capabilities and other items for a potential Phase 3 clinical trial |
| | | | The board of determined that the Company did not achieve its goals relating to enrollment of its DIPG clinical trial |

Weighting

Program

| Fiugialli | weighting | Objectives | Doard of Directors Assessment |
|-----------------------|-----------|---|---|
| Additional Objectives | 30% | Specified objectives relating to capital raising activities, investor relations and organizational buildout Board discretion (15%), with a particular focus on enrolling patients in the Phase 2 | The board of directors determined that the Company had achieved the goals relating to our organizational expansion, investor relations activities and our finance goal as a result of the public offering we completed in |
| | | clinical trial being conducted at the National Cancer Institute | The board of directors did not provide any credit relating to board discretion component of the corporate objectives |

Objectives

Board of Directors' Assessment

In light of the accomplishments described above and our overall progress throughout the year, the board of directors determined that 80% of the company objectives had been achieved.

Under our 2020 annual cash incentive program, 20% of the target bonuses for Drs. Baffa and de Groot and Messrs. Shukla and Hadfield were allocated to the individual objectives established for each executive. The board of directors determined that each executive, other than Mr. Shukla, had achieved 100% of their individual goals and that Mr. Shukla had achieved 50% of his individual goals. When factoring in the board's determination that we had achieved 80% of the corporate goals, the resulting payout awarded each executive, other than Mr. Shukla, was 84% of their targeted cash bonus and was 74% for Mr. Shukla. In February 2021, Ms. Hagen replaced Dr. Cooper as our Interim Chief Executive Officer, and as a result Dr. Cooper was not awarded a cash bonus under our 2020 annual cash incentive program.

The target short-term incentive compensation amounts for 2020, expressed as a percentage of 2020 base salaries, for each of our named executive officers, are set forth in the following table. In addition, the compensation committee recommended, and the board of directors approved, the following cash bonuses for 2020 performance:

| | 2020 Target Bonus | | 2020 Actual Bonus | | |
|----------------------------|------------------------------|-------------|------------------------------|-------------|---|
| <u>Name</u> | Percentage of Base Salary | Amount (\$) | Percentage of Base Salary | Amount (\$) | Percentage of Target Bonus Paid Out |
| Laurence James Neil Cooper | 200.0 | 1,146,000 | | | |
| Satyavrat Shukla | 40.0 | 164,000 | 32.1 | 121,360 | 74.0 |
| Raffaele Baffa | 40.0 | 23,377 | 33.6 | 19,637 | 84.0 |
| Robert Hadfield | 40.0 | 151,000 | 33.6 | 126,840 | 84.0 |
| Eleanor de Groot | 40.0 | 142,800 | 33.6 | 119,952 | 84.0 |

Long-Term Incentive Compensation

We award equity incentives in order to directly link the interests of our named executive officers with those of our stockholders and create incentives for them to maximize the long-term value of our stock. In determining the aggregate size of equity grants, the compensation committee may consider, in any given year, the peer group or survey data and one or more other factors, including the internal pay equity among our named executive officers other than our Chief Executive Officer, and ensuring that the Chief Executive Officer's award appropriately reflects the importance of his or her responsibilities for our success.

In January 2020, the board of directors granted a mix of restricted stock awards and stock options, with the intended mix roughly 50% in options and 50% in restricted stock. The compensation committee determined this mix of options and restricted stock provided the appropriate balance to retain and incentivize our named executive officers and align the named executive officers' interests with those of our stockholders. The board of directors views the restricted stock as an immediate retention incentive, while it views options as aligning our executives and stockholders with long-term success because our executives will only realize value with respect to the stock options if the value of our shares increases after the date of grant and the executive remains with us over the multi-year vesting period. The grant date values for the stock options and restricted stock are not equivalent as a result of changes in our stock price and accounting assumptions required to report such values under SEC rules.

In January 2020, after referencing the 2019 peer group data, the compensation committee granted the following equity awards to our named executive officers, with the exception of Dr. Baffa, that it believed to be competitive with the peer group and continue to align our executives' interests with those of our stockholders in order to motivate their performance to increase our share value. As part of our negotiations with Dr. Baffa in connection with his commencement of employment, in November 2020, we granted him a stock option to purchase 500,000 shares of our common stock and issued Dr. Baffa 200,000 shares of restricted common stock. Grant values to the named executive officers who were not hired during 2020 were below the median of the peers, except that the grant value provided to Dr. de Groot was approximately consistent with the median.

| Name | Restricted Stock | Stock Options | Total Equity Value(1) |
|----------------------------|------------------|---------------|-----------------------|
| Laurence James Neil Cooper | 171,700 | 264,200 | \$ 1,426,742 |
| Satyavrat Shukla | 80,500 | 123,900 | \$ 668,987 |
| Raffaele Baffa | 200,000 | 500,000 | \$ 1,430,750 |
| Robert Hadfield | 59,100 | 90,800 | \$ 490,711 |
| Eleanor de Groot | 53,700 | 82,600 | \$ 446,132 |

(1) Amounts reflect the grant date fair values, as calculated in accordance with ASC Topic 718.

Each of the restricted stock described above that were granted to our named executive officers vest in three equal annual installments and the stock options vest quarterly in equal installments over three years. Vesting of all awards is subject to continued service. These vesting schedules are designed to promote retention and encourage executives to consider the long-term stock price effects of their decisions.

Executive Retention

In November 2020, the board of directors recognized the need to encourage key executives to remain employed with the Company to execute on our critical corporate goals. The retention risk was the result of the activist campaign initiated by Watermill, our limited ability to raise additional capital in light of the limited shares available for issuance under our certificate of incorporation, and the expected additional changes to our programs in light of our resulting capital constraints.

In November 2020, the board of directors, following the recommendation of the compensation committee, granted each of Dr. de Groot and Messrs. Hadfield and Shukla a cash retention award in the amount of \$500,000, with 40% of the retention award payable if such individual remains employed with us on April 1, 2021, 35% of the retention award payable if such individual remains employed with us on September 1, 2021, and 25% of the retention award payable if such individual remains employed with us on December 1, 2021. In addition, the board granted Dr. Baffa a cash retention award in the amount of \$250,000, with 40% of the retention award payable if Dr. Baffa remains employed with us on April 1, 2021, 30% of the retention award payable if Dr. Baffa remains employed with us on December 1, 2021. The final payment of the retention awards for each of Drs. Baffa and de Groot and Mr. Hadfield will only be payable if we achieve certain patient dosing milestones in our TCR-T

program. Further, if the employment of any executive is terminated without cause or such individual resigns for good reason or upon the occurrence of certain change in control events, then such individual is entitled to his or her next scheduled payment in addition to any other compensation he or she may be owed pursuant to their respective employment arrangements and, in the case of the third retention payment, provided the patient dosing milestones are achieved.

Due to Mr. Shukla's resignation in December 2020, Mr. Shukla is not eligible to earn any portion of his cash retention award, which he forfeited upon his termination, and Mr. Shukla was not entitled to receive any severance compensation.

Stock Ownership Guidelines

In April 2019, we adopted stock ownership guidelines to help ensure that our senior executive officers and the non-employee members of the board of directors each maintain an equity stake in the Company, and by doing so, appropriately link their interests with those of our other stockholders. These guidelines require our Chief Executive Officer to own equity interests in the Company with a value equal to 3 times his or her base salary, each other senior executive officer to own equity interests with a value equal to 1 times his or her respective base salary, and all non-employee members of the board to own equity interests with a value equal to 3 times their respective annual retainer, each as calculated under our policy. Compliance is assessed annually, and executive officers and directors have an initial compliance period (ranging from three to five years, depending on how long they have been in such capacity with the Company at the time the guidelines are effective) from the date on which they become subject to the guidelines.

As of December 31, 2020, each of our named executive officers was in compliance with the ownership guidelines due to the compliance period.

We have a policy that prohibits our executive officers, directors and other members of management from engaging in short sales, transactions in put or call options, pledging transactions, hedging transactions or other inherently speculative transactions with respect to our stock. Any violation of the policies may result in disciplinary action, including dismissal for cause.

Severance and Change in Control Benefits

We have agreements with each of our named executive officers providing them with severance benefits, including double trigger cash and equity severance for termination in connection with a change-in-control, as further described in "Employment and Change in Control Agreements" below. The amounts and terms and conditions of these severance rights reflect the negotiations between each of our named executive officers and us at the time these documents were entered into, the benefits provided by our peer companies to similarly situated executives at the time they were negotiated, as well as our desire for internal pay equity among our executive officers. We believe that these existing arrangements are consistent with market practices and are critical to attracting and retaining high quality executives. We also believe the involuntary termination benefits allow our executives to focus on normal business operations rather than worrying about how business decisions that may be in our best interest will impact their own financial security. We do not provide golden parachute excise tax gross ups.

401(k) Plan

Our employees, including our named executive officers, are eligible to participate in our 401(k) plan. Our 401(k) plan is intended to qualify as a tax qualified plan under Section 401 of the Internal Revenue Code of 1986, as amended (the "Code"). Our 401(k) plan provides that each participant may contribute a portion of his or her pretax compensation, up to a statutory limit, which for most employees was \$19,500 in 2020, with an additional "catch up" contribution of up to \$6,500 permitted for employees age 50 and older, to the 401(k) plan. Employee

contributions are held and invested by the 401(k) plan's trustee. In 2020, we matched employee contributions at a rate of 100% up to 4% of an employee's base salary contributed to the plan. We believe that this benefit is consistent with the practices of our peer companies, and therefore helps us to recruit and retain key talent at a minimal cost to us.

Other Benefits and Perquisites

We provide medical insurance, dental insurance, life insurance and disability insurance benefits to our employees, including our named executive officers, based in the United States. These benefits are available to all employees on the same terms and conditions and are subject to applicable laws.

Our executive officers generally do not receive any perquisites, except for limited perquisites provided on a case by case basis. In considering potential perquisites, the compensation committee reviews the cost of such benefits, as compared to the perceived value we receive. We provided Dr. Cooper certain transportation perquisites and housing perquisites under the terms of his employment agreement. We view the overall cost of these benefits to be reasonable in light of the benefit to the Company of Dr. Cooper's services and to focus his efforts on attaining our performance objectives.

We do not sponsor any defined benefit pension plan or nonqualified deferred compensation plan or arrangement for our employees.

Additional 2021 Compensation Actions

Employment Agreement with Heidi Hagen

On February 24, 2021, the board of directors appointed Heidi Hagen as our Interim Chief Executive Officer, effective February 25, 2021.

Ms. Hagen will remain a member of the board of directors. Effective February 25, 2021, we entered into an employment agreement with Ms. Hagen, governing the terms of her employment as our Interim Chief Executive Officer. The Interim Chief Executive Officer compensation program is designed to ensure Ms. Hagen's interim employment in six-month increments, with cash compensation set at the median and with equity compensation set above the median to recognize that the decisions made by Ms. Hagen as Interim Chief Executive Officer will continuously affect the Company for many years after Interim Chief Executive Officer service is completed. The majority of the equity value was provided as stock options to require an increase in the stock price and to allow the time-frame required for the long-term price improvement as a reflection of the long drug development cycle from discovery to commercial product.

Base Salary; Sign on Bonus. Ms. Hagen will receive an annual base salary of \$575,000 and a one-time sign-on bonus of \$50,000.

Performance Bonus. If Ms. Hagen remains employed as our Interim Chief Executive Officer after September 1, 2021, then she shall be eligible to receive a performance bonus for the 2021 calendar year. The target amount of the performance bonus will be \$345,000, prorated from February 25, 2021 through the earlier of the date her employment with the Company ends or December 31, 2021, and based on the achievement of at least 50% of specific performance goals to be mutually agreed upon by Ms. Hagen and the board. Notwithstanding the foregoing, Ms. Hagen shall receive a minimum performance bonus of \$150,000 for 2021.

If Ms. Hagen remains employed as our Interim Chief Executive Officer on or after January 1, 2022, then she shall earn a \$25,000 bonus, or the Earned Monthly Bonus, on the last day of each of the first six calendar months in 2022, provided she remains employed on the last day of the applicable month. In addition, she will be eligible to receive a prorated performance bonus for the 2022 calendar year. The target amount of the performance bonus will be \$345,000 based on the achievement of at least 50% of specific performance goals to be mutually agreed upon by Ms. Hagen and the board of directors. The amount of the Earned Monthly Bonuses will be subtracted from any performance bonus for 2022 Ms. Hagen is eligible to receive.

Equity Incentive Grants. In connection with her appointment as our Interim Chief Executive Officer and pursuant to her employment agreement, on March 4, 2021, the board of directors granted Ms. Hagen 90,000 restricted shares of our common stock, which shall vest on the one-year anniversary of the date of grant, subject to Ms. Hagen's continued employment with us through such vesting date. Ms. Hagen's restricted stock grant will be governed by our 2020 Equity Incentive Plan and the standard form of restricted stock agreement adopted thereunder. In addition, pursuant to her employment agreement, on March 4, 2021, the board granted to Ms. Hagen an option to purchase 675,000 shares of our common stock, which option has an exercise price of \$4.31 per share. The option shall vest in twelve equal monthly installments over the term of one year, subject to Ms. Hagen's continued employment with us through each such vesting date. Ms. Hagen's option grant is governed by our 2020 Equity Incentive Plan and the standard form of stock option agreement adopted thereunder. If Ms. Hagen's employment terminates either because a replacement, full-time chief executive officer has been hired, or because we terminate her employment without "Cause" (as defined in her employment agreement), then upon termination of her employment, Ms. Hagen's shares of restricted stock shall vest in full, and any unvested portion of Ms. Hagen's option grant shall vest in full and become exercisable immediately.

Severance Provisions. If Ms. Hagen is terminated by us for any reason other than death, disability or Cause, then we will pay to Ms. Hagen her base salary through the date of termination, any accrued vacation, and any expense reimbursement amounts for expenses incurred through the date of termination. If, within 30 days after the effective date of termination, Ms. Hagen executes a written general release, she will also be entitled to receive continuing payments of her base salary for a period of four months. In addition, unless her employment is terminated for Cause, we will pay 100% of applicable COBRA premiums for Ms. Hagen for up to 12 months. Additionally, if Ms. Hagen' employment is terminated on or before September 1, 2021 because she has been replaced by a full-time chief executive officer, then Ms. Hagen is entitled to receive a bonus of \$150,000.

Tim Cunningham

On February 17, 2021, we appointed Mr. Cunningham as our interim Chief Financial Officer and principal financial officer. Mr. Cunningham is a consultant and providing services to us pursuant to a consulting agreement between us and Danforth Advisors, LLC, a financial consultancy firm specializing in working with life sciences companies, or the Cunningham Consulting Agreement. The term of the Cunningham Consulting Agreement continues until such time as either party provides written notice of termination. The Cunningham Consulting Agreement may be terminated by either party with cause, upon 30 days' written notice and without cause, upon 60 days' written notice. Under the Cunningham Consulting Agreement, Mr. Cunningham is entitled to an hourly rate of \$375 and reimbursement of reasonable out-of-pocket business expenses. In addition, the Cunningham Consulting Agreement includes confidentiality, intellectual property and non-solicitation provisions.

Laurence Cooper

On April 5, 2021 we entered into a letter agreement with Dr. Cooper providing for his separation of employment with us, effective April 9, 2021 (the "Separation Agreement") and also a consulting agreement providing for Dr. Cooper's continuing services as a consultant to us (the "Cooper Consulting Agreement"). Under the Separation Agreement, in exchange for a release of claims and certain post-employment covenants and in lieu of any severance benefits under his employment agreement, Dr. Cooper is entitled to receive continuing payments of his base salary and COBRA premiums for a period of 18 months, a cash payment \$143,250, representing a pro-rata target amount of his annual performance bonus for 2021, a fully-vested restricted stock award with a grant value of \$917,000, equivalent to the 2020 annual bonus Dr. Cooper would have been entitled to had his employment not terminated, and certain limited reimbursements for legal fees and housing. Dr. Cooper is not entitled to any equity acceleration in connection with his separation, however his equity awards are eligible to continue to vest pursuant to their terms based on his consulting services to us. The board of directors determined these severance benefits were appropriate to provide Dr. Cooper, considering the severance benefits provided under the terms of his employment agreement and his contributions to our Company.

The term of the Cooper Consulting Agreement commences on Dr. Cooper's employment separation and continues for up to three years, subject to earlier termination by either Dr. Cooper or the Company, provided that

if Dr. Cooper terminates the agreement within the first year of the term, he is required to reimburse the Company certain of his cash severance described in the Separation Agreement. Under the Cooper Consulting Agreement, Dr. Cooper may earn consulting fees in amounts of up to \$573,000 for the first year and \$300,000 for each of the following two years and is also eligible for reimbursement of reasonable out-of-pocket business expenses. In addition, the Cooper Consulting Agreement includes confidentiality and intellectual property provisions.

Tax Deductibility of Executive Compensation

Under Section 162(m) of the Internal Revenue Code ("Section 162(m)"), compensation paid to each of our "covered employees" that exceeds \$1 million per taxable year is generally non-deductible unless the compensation qualifies for (i) certain grandfathered exceptions (including the "performance-based compensation" exception) for certain compensation paid pursuant to a written binding contract in effect on November 2, 2017 and not materially modified on or after such date or (ii) the reliance period exception for certain compensation paid by corporations that became publicly held on or before December 20, 2019.

Although the compensation committee will continue to consider tax implications as one factor in determining executive compensation, the compensation committee also looks at other factors in making its decisions and retains the flexibility to provide compensation for our named executive officers in a manner consistent with the goals of our executive compensation program and the best interests of the Company and our stockholders, which may include providing for compensation that is not deductible by us due to the deduction limit under Section 162(m). The compensation committee also retains the flexibility to modify compensation that was initially intended to be exempt from the deduction limit under Section 162(m) if it determines that such modifications are consistent with our business needs.

Accounting Considerations

We account for equity compensation paid to our employees under the Financial Accounting Standards Board Accounting Standards Codification Topic 718 ("ASC 718"), which requires us to estimate and record an expense over the service period of the equity award. Our cash compensation is recorded as an expense over the period the bonus is earned. The accounting impact of our compensation programs are one of many factors that the compensation committee considers in determining the structure and size of our executive compensation programs.

Compensation Recovery Policy

As a public company subject to the provisions of Section 304 of the Sarbanes-Oxley Act of 2002, if we are required as a result of misconduct to restate our financial results due to our material noncompliance with any financial reporting requirements under the federal securities laws, our Chief Executive Officer and chief financial officer may be legally required to reimburse us for any bonus or other incentive-based or equity-based compensation they receive. We have considered and are aware that some companies have voluntarily adopted clawback policies to attempt to recover cash bonus payments to executive officers if performance objectives that led to the determination of such payments are restated or found not to have been met to the extent the compensation committee originally believed. We have not currently adopted such a policy, but we will comply with the requirements of the Dodd-Frank Act and will adopt a compensation recovery policy once the SEC adopts final regulations on the subject.

Risk Analysis of Our Compensation Program

Our compensation committee has reviewed our compensation policies as generally applicable to our employees and believes that our policies do not encourage excessive or inappropriate risk taking and that the level of risk that they do encourage is not reasonably likely to have a material adverse effect on us. As part of its assessment, the compensation committee considered, among other factors, the allocation of compensation among

base salary and short- and long-term compensation, our approach to establishing company-wide and individual financial, operational and other performance targets, our bonus structure of payouts at multiple levels of performance, and the nature of our key performance metrics.

Compensation Committee Report

The compensation committee has reviewed and discussed with management the Compensation Discussion and Analysis portion contained in this proxy statement. Based on this review and discussion, the compensation committee has recommended to the board of directors, and the board has agreed, that the section titled "Compensation Discussion and Analysis" as it appears above be included in this proxy statement.

COMPENSATION COMMITTEE

Mary Thistle, Chair Christopher Bowden, M.D. Robert Postma Holger Weis

This report is not "soliciting material," is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference in any of our filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether before or after the date hereof and irrespective of any general incorporation language in any such filing.

Executive Compensation Tables

Summary Compensation Table

The following table sets forth information regarding compensation awarded to or earned by our named executive officers.

| | | | | Stock | Option | All Other Compensation | |
|---------------------------------|------|-------------|--------------|----------------|----------------|---------------------------|-----------|
| Name of Principal Position | Year | Salary (\$) | Bonus (\$) | Awards (\$)(1) | Awards (\$)(1) | (\$) | Total |
| Laurence James Neil Cooper(2) | 2020 | 573,000 | | 722,857 | 703,855 | 91,210(3) | 2,090,922 |
| Former Chief Executive Officer | 2019 | 573,000 | 1,031,400 | 755,476 | 862,707 | 94,991(4) | 3,317,574 |
| | 2018 | 500,000 | 1,000,000(5) | _ | _ | 89,239 | 1,589,239 |
| Satyavrat Shukla ⁽⁶⁾ | 2020 | 410,000 | 121,360 | 338,905 | 330,082 | 51,864(7) | 1,252,211 |
| Former Chief Financial Officer | 2019 | 174,500 | 100,000 | _ | 1,545,520 | 2,198(8) | 1,822,218 |
| Raffaele Baffa ⁽⁹⁾ | 2020 | 58,125 | 179,637(10) | 546,000 | 884,750 | 5,072(11) | 1,673,584 |
| Chief Medical Officer | | | | | | | |
| Robert Hadfield | 2020 | 377,500 | 126,840 | 248,811 | 241,900 | 11,760(12) | 1,006,811 |
| Chief Legal Officer and | 2019 | 370,000 | 136,160 | 263,361 | 300,741 | 11,560(13) | 1,081,822 |
| Secretary | 2018 | 254,647 | 113,000 | _ | 459,390 | 9,054 | 836,091 |
| Eleanor de Groot | 2020 | 357,000 | 119,952 | 226,077 | 220,055 | 12,028(14) | 935,112 |
| Executive Vice President, | | | | | | | |
| GM Cell Therapy | | | | | | | |
| | | | | | | | |

(1) These amounts have been calculated in accordance with ASC Topic 718. Pursuant to SEC rules, the amounts shown exclude the impact of estimated forfeitures related to service-based vesting conditions. For a discussion of the assumptions relating to our valuations of these restricted stock awards and stock options, please see Note 14 to the financial statements included in our Annual Report on Form 10-K for the fiscal

- year ended December 31, 2020, filed with the SEC on March 1, 2021. These amounts reflect our accounting expense for these restricted stock awards and stock options and do not correspond to the actual value that may be recognized by our named executive officer.
- (2) Dr. Cooper ceased being our Chief Executive Officer, effective February 25, 2021. Dr. Cooper will remain a scientific advisor employee with us until April 9, 2021, at which time he will become a consultant to us.
- (3) Of such amount, (i) \$1,548 represents the dollar value of group term life insurance premiums we paid for the benefit of Dr. Cooper during 2020, (ii) \$78,462 represents taxable perquisites, including \$77,848 for housing expenses and \$614 for commuting expenses, and (iii) \$11,200 represents the amount we contributed to Dr. Cooper's 401(k) plan account pursuant to our matching program.
- (4) Of such amount, (i) \$1,548 represents the dollar value of group term life insurance premiums we paid for the benefit of Dr. Cooper during 2019, (ii) \$82,243 represents taxable perquisites, including \$75,580 for housing expenses and \$6,663 for commuting expenses, and (iii) \$11,200 represents the amount we contributed to Dr. Cooper's 401(k) plan account pursuant to our matching program.
- (5) Dr. Cooper offered to receive his 2018 annual incentive bonus in shares of our common stock with a trading value equal to the \$1,000,000 cash bonus, rounded down to the nearest whole share. The board of directors accepted Dr. Cooper's offer and Dr. Cooper was issued 446,428 shares of common stock in January 2019. The number of shares underlying the award were calculated based on Dr. Cooper's cash bonus award and divided by the most recent closing price of our common stock prior to the day the shares were issued.
- (6) Mr. Shukla served as our Chief Financial Officer from July 2019 to December 2020.
- (7) Of such amount, (i) \$540 represents the dollar value of group term life insurance premiums we paid for the benefit of Mr. Shukla during 2020, (ii) \$762 represents taxable perquisites for commuting expenses, (iii) \$11,400 represents the amount we contributed to Mr. Shukla's 401(k) plan account pursuant to our matching program, and (iv) \$39,162 represents accrued vacation paid at departure.
- (8) Of such amount, (i) \$248 represents the dollar value of group term life insurance premiums we paid for the benefit of Mr. Shukla during 2019 and (ii) \$1,950 represents the amount we contributed to Mr. Shukla's 401(k) plan account pursuant to our matching program.
- (9) Dr. Baffa joined us in November 2020.
- (10) Of such amount, (i) \$160,000 represents a signing bonus and (ii) \$19,637 represents a prorated year-end bonus.
- (11) Of such amount, (i) \$297 represents the dollar value of group term life insurance premiums we paid for the benefit of Dr. Baffa during 2020 and (ii) \$4,775 represents the amount we contributed to Dr. Baffa's 401(k) plan account pursuant to our matching program.
- (12) Of such amount, (i) \$360 represents the dollar value of group term life insurance premiums we paid for the benefit of Mr. Hadfield during 2020 and (ii) \$11,400 represents the amount we contributed to Mr. Hadfield's 401(k) plan account pursuant to our matching program.
- (13) Of such amount, (i) \$360 represents the dollar value of group term life insurance premiums we paid for the benefit of Mr. Hadfield during 2019 and (ii) \$11,200 represents the amount we contributed to Mr. Hadfield's 401(k) plan account pursuant to our matching program.
- (14) Of such amount, (i) \$828 represents the dollar value of group term life insurance premiums we paid for the benefit of Dr. de Groot during 2020 and (ii) \$11,200 represents the amount we contributed to Dr. de Groot's 401(k) plan account pursuant to our matching program.

Grants of Plan-Based Awards for Fiscal Year 2020

The following table sets forth information regarding grants of compensation in the form of plan-based awards made during 2020 to our named executive officers. The equity awards granted in 2020 identified in the table below are also reported in the table titled "Outstanding Equity Awards at 2020 Fiscal Year-End."

| <u>Name</u> | | ττ | Estimated Future Payouts Inder Non-Equit Incentive Plan Awards(1) | у | All Other Stock Awards: Number of Shares of Stock or | All Other Option Awards: Number of Securities Underlying | Exercise or Base Price of Option Awards | Grant Date Fair Value of Stock and Option |
|----------------------------|------------|----------------|---|--------------|---|---|--|---|
| | Grant Date | Threshold (\$) | Target (\$) | Maximum (\$) | Units (#) | Options (#) | (\$/Sh) | Awards (\$)(2) |
| Laurence James Neil Cooper | | _ | 1,146,000 | _ | | | | _ |
| | 1/29/20 | | | | 171,700 | | | 722,857 |
| | 1/29/20 | | | | | 264,200 | 4.21 | 703,855 |
| Satyavrat Shukla | | _ | 164,000 | _ | | | | |
| | 1/29/20 | | | | 80,500 | | | 338,905 |
| | 1/29/20 | | | | | 123,900 | 4.21 | 330,082 |
| Raffaele Baffa | | _ | 23,377 | _ | | | | |
| | 12/7/20 | | | | 200,000 | | | 546,000 |
| | 12/7/20 | | | | | 500,000 | 2.73 | 884,750 |
| Robert Hadfield | | _ | 151,000 | _ | | | | _ |
| | 1/29/20 | | | | 59,100 | | | 248,811 |
| | 1/29/20 | | | | | 90,800 | 4.21 | 241,900 |
| Eleanor de Groot | | _ | 142,800 | _ | | | | _ |
| | 1/29/20 | | | | 53,700 | | | 226,077 |
| | 1/29/20 | | | | | 82,600 | 4.21 | 220,055 |

- (1) Reflects performance-based cash bonuses that our named executive officers were eligible to earn in 2020 if certain performance metrics were achieved whether pursuant to an employment agreement with us or otherwise. See "—Employment and Change in Control Agreements" for a description of our performance-based compensation arrangements with our named executive officers. For amounts actually earned and paid for 2020 performance, see the Bonus column of the Summary Compensation Table above.
- (2) The amounts shown represent compensation expense recognized for financial statement purposes under ASC Topic 718. Pursuant to SEC rules, the amounts shown exclude the impact of estimated forfeitures related to service-based vesting conditions. For a discussion of the assumptions relating to our valuations of restricted stock awards and option awards, see Note 14 to the financial statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020 filed with the SEC on March 1, 2021. These amounts reflect our accounting expense for these restricted stock awards and do not correspond to the actual value that may be recognized by our named executive officers.

Outstanding Equity Awards at 2020 Fiscal Year-End

The following table sets forth information regarding option awards and restricted stock awards held as of December 31, 2020 by our named executive officers.

| | | Stock Awards | | | | |
|----------------------------|-----------------|------------------------------------|------------------------------|--------------------|---|-------------------------|
| Name | | of Securities exercised Options | Option | Option | Shares or Units of Stock That Have Not Vested | |
| | Exercisable (#) | Unexercisable (#) | Exercise Price (\$/Sh)(1) | Expiration Date | Number (#) | Market Value (\$)(2) |
| Laurence James Neil Cooper | 309,900 | 177,271(3) | 2.24 | 1/6/2029 | | |
| | 88,067 | 176,133(4) | 4.21 | 1/29/2030 | | |
| | | | | | 112,422(5) | 283,303 |
| | | | | | 114,467(6) | 288,457 |
| Satyavrat Shukla | 133,333 | | 5.60 | 3/31/2021 | | |
| | 41,300 | _ | 4.21 | 3/31/2021 | | |
| Raffaele Baffa | _ | 500,000(7) | 2.73 | 12/7/2030 | | |
| | | | | | 200,000(8) | 504,000 |
| Robert Hadfield | 100,000 | 50,000(9) | 4.32 | 4/25/2028 | | |
| | 123,594 | 61,797(10) | 2.24 | 1/6/2029 | | |
| | 30,267 | 60,533(11) | 4.21 | 1/29/2030 | | |
| | | | | | 39,191(12) | 98,761 |
| | | | | | 39,400(13) | 99,288 |
| Eleanor de Groot | 100,000 | _ | 11.53 | 7/13/2025 | | |
| | 115,114 | 57,557(14) | 2.24 | 1/6/2029 | | |
| | 27,533 | 55,067(15) | 4.21 | 1/29/2030 | | |
| | | | | | 36,502(16) | 91,985 |
| | | | | | 35,800(17) | 90,216 |

- (1) Each stock option was granted with an exercise price equal to the fair market value of our common stock on the grant date.
- (2) Market values are calculated based on the closing market price of our common stock as reported on the Nasdaq Global Select Market on December 31, 2020, which was \$2.52 per share.
- (3) Vests with respect to 44,318 shares on each of March 31, 2021, June 30, 2021 and December 31, 2021 and with respect to 44,317 shares on September 30, 2021.
- (4) Vests with respect to 22,017 shares on each of March 31, 2021, June 30, 2021, September 30, 2021, June 30, 2022 and September 30, 2022 and with respect to 22,016 shares on each of December 31, 2021, March 30, 2022 and December 31, 2022.
- (5) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 112,422 shares on December 31, 2021.
- (6) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 57,233 shares on December 31, 2021 and with respect to 57,234 shares on December 31, 2022.
- (7) Vests with respect to 125,000 shares on December 7, 2021, with respect to 10,417 shares on each of March 7, 2022, December 7, 2022, March 7, 2023, June 7, 2023, September 7, 2023, December 7, 2023, March 7, 2024 and December 7, 2024 and with respect to 10,416 shares on each of June 7, 2022, September 7, 2022, June 7, 2024 and September 7, 2024.
- (8) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 50,000 shares on each of December 7, 2021, December 7, 2022, December 7, 2023 and December 7, 2024.
- (9) Vests with respect to 50,000 shares on April 25, 2021.
- (10) Vests with respect to 15,449 shares on each of March 31, 2021, June 30, 2021 and December 31, 2021 and with respect to 15,450 shares on September 30, 2021.

- (11) Vests with respect to 7,567 shares on each of March 31, 2021, June 30, 2021, September 30, 2021, June 30, 2022 and September 30, 2022 and with respect to 7,566 shares on each of December 31, 2021, March 30, 2022 and December 31, 2022.
- (12) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 39,191 shares on December 31, 2021.
- (13) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 19,700 shares on each of December 31, 2021 and December 31, 2022.
- (14) Vests with respect to 14,389 shares on each of March 31, 2021, June 30, 2021 and December 31, 2021 and with respect to 14,390 shares on September 30, 2021.
- (15) Vests with respect to 6,883 shares on each of March 31, 2021, June 30, 2021, September 30, 2021, June 30, 2022 and September 30, 2022 and with respect to 6,884 shares on each of December 31, 2021, March 30, 2022 and December 31, 2022.
- (16) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 36,502 shares on December 31, 2021.
- (17) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 17,900 shares on each of December 31, 2021 and December 31, 2022.

Option Exercises and Stock Awards Vested during Fiscal 2020

The following table provides certain information regarding option awards that were exercised and restricted stock that vested during the fiscal year ended December 31, 2020 with respect to our named executive officers.

| | Opti | on Awards | Stock Awards | | |
|----------------------------|------------------------------------|-------------------|------------------------------------|--------------------|--|
| | Number of Shares Acquired on | Value Realized on | Number of Shares Acquired on | Value Realized | |
| <u>Name</u> | Exercise (#) | Exercise (\$)(1) | Vesting (#) | on Vesting (\$)(2) | |
| Laurence James Neil Cooper | | | 285,655 | 727,971 | |
| Satyavrat Shukla | _ | _ | 26,833 | 67,619 | |
| Raffaele Baffa | _ | _ | _ | _ | |
| Robert Hadfield | _ | _ | 58,890 | 148,403 | |
| Eleanor de Groot | _ | _ | 72,068 | 182,848 | |

- (1) Value realized is calculated by multiplying (i) the number of shares of common stock for which the stock options were exercised by (ii) the difference between the exercise price and the closing price of our common stock as reported on the Nasdaq Global Select Market on the date of exercise. These amounts may not correspond to the actual value that may be recognized by the officers.
- (2) Value realized is calculated by multiplying the number of shares vested on the applicable date during 2020 by the closing market price of our common stock as reported on the Nasdaq Global Select Market on such date. These amounts do not correspond to the actual value that may be recognized by our named executive officers.

Employment and Change in Control Agreements

We have the following employment agreements in place with our named executive officers.

Employment Agreement with Raffaele Baffa

Dr. Baffa has served as our Chief Medical Officer since November of 2020 pursuant to an employment agreement Baffa entered into in September 2020, which we subsequently amended in November 2020. Dr. Baffa has an at-will employment relationship with us.

Base Salary. Dr. Baffa's annual base salary in 2020 was \$465,000, pro rated based on the number of days worked. Under his employment agreement, Dr. Baffa's annual base salary is subject to review by the board of directors or the compensation committee at least annually.

Annual Performance Bonus; Sign-on Bonus; Retention Bonus. Under his employment agreement, Dr. Baffa is eligible to receive an annual bonus based on his performance as determined by the board or the compensation committee. The target amount of the annual performance bonus is 40% of his base salary, with the actual amount to be received determined by the board or the compensation committee. In addition, Dr. Baffa received a one-time sign-on bonus of \$160,000, which all, or a portion of which, must be repaid if he leaves prior to the second anniversary of his start date. In 2021, Dr. Baffa is eligible to receive cash retention awards up to an aggregate of \$250,000 in three installments if Dr. Baffa remains employed with the Company through specified dates and, in the case of the final milestone, we achieve certain patient dosing milestones in our TCR-T program. If Dr. Baffa's employment is terminated without cause or he resigns for good reason or upon the occurrence of certain change in control events, then Dr. Baffa is entitled to his next scheduled payment in addition to any other compensation he may be owed pursuant to his employment arrangement and, in the case of the third retention payment, provided the patient dosing milestones are achieved.

Equity Incentive Grants. In connection with his appointment as our Chief Medical Officer and pursuant to his employment agreement, effective as of December 7, 2020, the board granted to Dr. Baffa an option to purchase 500,000 shares of our common stock, which option has an exercise price of \$2.73 per share and the Company issued Dr. Baffa 200,000 shares of restricted common stock. Dr. Baffa is also eligible to receive equity awards as determined by the board in its sole discretion from time to time. In the case of either (i) a termination by us for a reason other than death, disability or "Cause," or (ii) a resignation for "Good Reason," in each case that occurs within 90 days prior to and in connection with a "Change of Control" (as that term is defined in his employment agreement), or within 18 months after the occurrence of a "Change of Control," all unvested stock options and unvested awards of restricted stock held by Dr. Baffa at the time that such termination occurs will be accelerated and deemed to have vested as of his employment termination date.

Severance Provisions. If (i) we terminate Dr. Baffa for a reason other than death, disability or "Cause" (as that term is defined in his employment agreement), or (ii) Dr. Baffa resigns for "Good Reason" (as that term is defined in his employment agreement), Dr. Baffa will be entitled to receive a severance payment equal to twelve months of his then-current base salary, plus payment of our portion of the contributions for medical and dental insurance coverage for twelve months, subject to Dr. Baffa's execution and delivery of a general release in favor of the Company. In the case of either (i) a termination by us for a reason other than death, disability or "Cause," or (ii) a resignation for "Good Reason," in each case that occurs within 90 days prior to and in connection with a "Change of Control" (as that term is defined in his employment agreement), or within 18 months after the occurrence of a "Change of Control," then, in addition to the foregoing severance provisions, all unvested stock options and unvested awards of restricted stock held by Dr. Baffa at the time that such termination occurs will be accelerated and deemed to have vested as of his employment termination date, and Dr. Baffa will be entitled to full target amount of his annual performance bonus for the calendar year in which such termination occurs.

Non-competition and Non-solicitation. Dr. Baffa has entered into an Invention, Non-Disclosure and Non-Competition Agreement, which provides that he will not compete with us or solicit our clients or customers for a year after the termination or cessation of his employment with us, and further provides that he will not solicit our employees for one year after the termination or cessation of his employment with us.

Employment Agreement with Robert Hadfield

Mr. Hadfield has served as our Chief Legal Officer and Secretary since January 2021, our Executive Vice President, General Counsel, Secretary and Chief Compliance Officer from December 2018 until January 2021, and as our General Counsel and Secretary from April 2018 to December 2018. In April 2019, we entered into an employment agreement with Mr. Hadfield, which was amended in November 2020. Mr. Hadfield has an at-will employment relationship with us.

Base Salary. In 2020, Mr. Hadfield received a base salary of \$377,500. Under his employment agreement, Mr. Hadfield's annual base salary is subject to review by the board of directors or the compensation committee at least annually.

Annual Performance Bonus; Retention Bonus. Under his employment agreement, Mr. Hadfield is eligible to receive an annual bonus based on his performance as determined by the board or the compensation committee. The target amount of the annual performance bonus is 40% of his base salary, with the actual amount to be received determined by the board or the compensation committee. In 2021, Mr. Hadfield is eligible to receive cash retention awards up to an aggregate of \$500,000 in three installments if Mr. Hadfield remains employed with the Company through specified dates and, in the case of the final milestone, we achieve certain patient dosing milestones in our TCR-T program. If Mr. Hadfield's employment is terminated without cause or he resigns for good reason or upon the occurrence of certain change in control events, then Mr. Hadfield is entitled to his next scheduled payment in addition to any other compensation he may be owed pursuant to his employment arrangement and, in the case of the third retention payment, provided the patient dosing milestones are achieved.

Equity Incentive Grants. Mr. Hadfield is eligible to receive equity awards as determined by the board in its sole discretion from time to time. In the case of either (i) a termination by us for a reason other than death, disability or "Cause," or (ii) a resignation for "Good Reason," in each case that occurs within 90 days prior to and in connection with a "Change in Control" (as that term is defined in his employment agreement), or within 18 months after the occurrence of a "Change in Control," all unvested stock options and unvested awards of restricted stock held by Mr. Hadfield at the time that such termination occurs will be accelerated and deemed to have vested as of his employment termination date.

Severance Provisions. If (i) we terminate Mr. Hadfield for a reason other than death, disability or "Cause" (as that term is defined in his employment agreement), or (ii) Mr. Hadfield resigns for "Good Reason" (as that term is defined in his employment agreement), Mr. Hadfield will be entitled to receive a severance payment equal to twelve months of his then-current base salary, plus payment of our portion of the contributions for medical and dental insurance coverage for twelve months, subject to Mr. Hadfield's execution and delivery of a general release in favor of the Company. In the case of either (i) a termination by us for a reason other than death, disability or "Cause," or (ii) a resignation for "Good Reason," in each case that occurs within 90 days prior to and in connection with a "Change in Control" (as that term is defined in his employment agreement), or within 18 months after the occurrence of a "Change in Control," all unvested stock options and unvested awards of restricted stock held by Mr. Hadfield at the time that such termination occurs will be accelerated and deemed to have vested as of his employment termination date, and Mr. Hadfield will be entitled to full target amount of his annual performance bonus for the calendar year in which such termination occurs.

Non-competition and Non-solicitation. Mr. Hadfield has entered into an Invention, Non-Disclosure and Non-Competition Agreement, which provides that he will not compete with us or solicit our clients or customers for a year after the termination or cessation of his employment with us, and further provides that he will not solicit our employees for one year after the termination or cessation of his employment with us.

Employment Agreement with Eleanor de Groot

Dr. de Groot has served as our Executive Vice President, Cell Therapy since January 1, 2019, and previously as our SVP, Program Management & Business Development from July 13, 2015 to December 31, 2018. In April 2019, we entered into an employment agreement with Dr. de Groot, which was amended in November 2020. Dr. de Groot has an at-will employment relationship with us.

Base Salary. In 2020, Dr. de Groot received a base salary of \$357,000. Under her employment agreement, Dr. de Groot's annual base salary is subject to review by the board of directors or the compensation committee at least annually.

Annual Performance Bonus; Retention Bonus. Under her employment agreement, Dr. de Groot is eligible to receive an annual bonus based on her performance as determined by the board or the compensation committee. The target amount of the annual performance bonus is 40% of her base salary, with the actual amount to be

received determined by the board or the compensation committee. In 2021, Dr. de Groot is eligible to receive cash retention awards up to an aggregate of \$500,000 in three installments if Dr. de Groot remains employed with the Company through specified dates and, in the case of the final milestone, we achieve certain patient dosing milestones in our TCR-T program. If Dr. de Groot's employment is terminated without cause or she resigns for good reason or upon the occurrence of certain change in control events, then Dr. de Groot is entitled to her next scheduled payment in addition to any other compensation she may be owed pursuant to her employment arrangement and, in the case of the third retention payment, provided the patient dosing milestones are achieved.

Equity Incentive Grants. Dr. de Groot is eligible to receive equity awards as determined by the board in its sole discretion from time to time. In the case of either (i) a termination by us for a reason other than death, disability or "Cause," or (ii) a resignation for "Good Reason," in each case that occurs within 90 days prior to and in connection with a "Change in Control" (as that term is defined in her employment agreement), or within 18 months after the occurrence of a "Change in Control," all unvested stock options and unvested awards of restricted stock held by Dr. de Groot at the time that such termination occurs will be accelerated and deemed to have vested as of her employment termination date.

Severance Provisions. If (i) we terminate Dr. de Groot for a reason other than death, disability or "Cause" (as that term is defined in her employment agreement), Dr. de Groot resigns for "Good Reason" (as that term is defined in her employment agreement), Dr. de Groot will be entitled to receive a severance payment equal to twelve months of her then-current base salary, plus payment of our portion of the contributions for medical and dental insurance coverage for twelve months, subject to Dr. de Groot's execution and delivery of a general release in favor of the Company. In the case of either (i) a termination by us for a reason other than death, disability or "Cause," or (ii) a resignation for "Good Reason," in each case that occurs within 90 days prior to and in connection with a "Change in Control" (as that term is defined in her employment agreement), or within 18 months after the occurrence of a "Change in Control," all unvested stock options and unvested awards of restricted stock held by Dr. de Groot at the time that such termination occurs will be accelerated and deemed to have vested as of her employment termination date, and Dr. de Groot will be entitled to full target amount of her annual performance bonus for the calendar year in which such termination occurs.

Non-competition and Non-solicitation. Dr. de Groot has entered into an Invention, Non-Disclosure and Non-Competition Agreement, which provides that she will not compete with us or solicit our clients or customers for a year after the termination or cessation of her employment with us, and further provides that she will not solicit our employees for one year after the termination or cessation of her employment with us.

Employment Agreement with Laurence James Neil Cooper, M.D., Ph.D.

Dr. Cooper served as our Chief Executive Officer from May 2015 until February 2021, at which point Dr. Cooper became as scientific advisor employee of the Company. As a scientific advisor employee, Dr. Cooper is continuing to receive his base salary and remains eligible for our employee benefit programs pursuant to the terms of his employment agreement. On April 5, 2021, we entered into a Separation Agreement with Dr. Cooper providing for his cessation of employment. effective April 9, 2021 and the Cooper Consulting Agreement providing his continued consulting thereafter. For a description of the material terms of the Separation Agreement and the Cooper Consulting Agreement see above under "Compensation Discussion and Analysis-Additional 2021 Compensation Actions." Below is a summary of the material terms of Dr. Cooper's employment agreement in place during 2020 when he served as our Chief Executive Officer.

Base Salary. In 2020, Dr. Cooper received a base salary of \$573,000. Under his employment agreement, his base salary is subject to review by the board of directors or the compensation committee at least annually.

Annual Performance Bonus. Under his employment agreement, Dr. Cooper is eligible to receive an annual bonus based on his performance as determined by the board or the compensation committee. The target amount

of the annual performance bonus is 200% of his base salary, with the actual amount to be received determined by the board or the compensation committee. Dr. Cooper is also eligible to receive an additional annual discretionary bonus in such amount as may be determined by the board.

Equity Incentive Grants. Dr. Cooper is eligible under his employment agreement to receive equity awards as determined by the board in its discretion from time to time. Under certain circumstances, the vesting of Dr. Cooper's equity awards may be accelerated in the event of a change in control or if Dr. Cooper's employment with us is terminated. See "Severance Provisions" and "Potential Payments Upon Termination or Change in Control" below for further discussion on Dr. Cooper's severance benefits.

Expense Reimbursement. Under his employment agreement, Dr. Cooper is eligible for reimbursement of normal, usual and necessary expenses incurred by him in furtherance of our business and affairs, including reasonable travel and entertainment expenses and the ordinary and necessary expenses incurred in connection with his commute.

Severance Provisions. If (i) we terminate Dr. Cooper for a reason other than death, disability or "Cause" (as that term is defined in his employment agreement), or (ii) Dr. Cooper resigns for "Good Reason" (as that term is defined in his employment agreement), Dr. Cooper will be entitled to receive continuing payments of his then-current base salary for a period of twelve months, plus a portion of the target amount of his annual performance bonus for the calendar year in which such termination occurs (which portion will be determined pro rata based on the number of days in such calendar year during which we employed Dr. Cooper), plus payment of our portion of the contributions for medical and dental insurance coverage for twelve months, subject to Dr. Cooper's execution and delivery of a general release in favor of the Company. In this situation, Dr. Cooper's stock options that have vested as of the date of termination shall remain exercisable for a period of 90 days, and the unvested stock options and unvested awards of restricted stock awarded to Dr. Cooper in 2016 and 2017 shall be deemed to have expired as of the date of termination. In the case of either (i) a termination by us for a reason other than death, disability or "Cause," or (ii) a resignation for "Good Reason," in each case that occurs within 90 days prior to and in connection with a "Change in Control" (as that term is defined in his employment agreement), or within 18 months after the occurrence of a "Change in Control," all unvested stock options and unvested awards of restricted stock held by Dr. Cooper at the time that such termination occurs will be accelerated and deemed to have vested as of his employment termination date, and in lieu of the pro-rata bonus described above, Dr. Cooper will be entitled to full target amount of his annual performance bonus for the calendar year in which such termination occurs.

Non-competition and Non-solicitation. Dr. Cooper has entered into an Invention, Non-Disclosure and Non-Competition Agreement, which provides that he will not compete with us or solicit our clients or customers for a year after the termination or cessation of his employment with us, and further provides that he will not solicit our employees for one year after the termination or cessation of his employment with us.

Employment Agreement with Satyavrat Shukla

Mr. Shukla served as our Chief Financial Officer from July 2019 until December 2020 pursuant to an employment agreement with Mr. Shukla entered into in June 2019, which was amended in November 2020.

Base Salary. Mr. Shukla's annual base salary in 2020 was \$410,000. Under his employment agreement, Mr. Shukla's annual base salary was subject to review by the board of directors or the compensation committee at least annually.

Annual Performance Bonus; Retention Bonus. Under his employment agreement, Mr. Shukla had been eligible to receive an annual bonus based on his performance as determined by the board or the compensation committee. The target amount of the annual performance bonus is 40% of his base salary, with the actual amount to be received determined by the board or the compensation committee. In 2021, Mr. Shukla had been eligible to

receive cash retention awards up to an aggregate of \$500,000 in three installments if Mr. Shukla had remained employed with the Company through specified dates and, in the case of the final milestone, we achieve certain patient dosing milestones in our TCR-T program. If Mr. Shukla's employment had been terminated without cause or he resigns for good reason or upon the occurrence of certain change in control events, then Mr. Shukla would have been entitled to his next scheduled payment in addition to any other compensation he may be owed pursuant to his employment arrangement and, in the case of the third retention payment, provided the patient dosing milestones are achieved.

Equity Incentive Grants. Mr. Shukla had been eligible to receive equity awards as determined by the board in its sole discretion from time to time. In the case of either (i) a termination by us for a reason other than death, disability or "Cause," or (ii) a resignation for "Good Reason," in each case that occurs within 90 days prior to and in connection with a "Change of Control" (as that term is defined in his employment agreement), or within 18 months after the occurrence of a "Change of Control," all unvested stock options and unvested awards of restricted stock held by Mr. Shukla at the time that such termination occurs will be accelerated and deemed to have vested as of his employment termination date.

Severance Provisions. Under his employment agreement, if (i) we had terminated Mr. Shukla for a reason other than death, disability or "Cause" (as that term is defined in his employment agreement), or (ii) Mr. Shukla had resigned for "Good Reason" (as that term is defined in his employment agreement), Mr. Shukla would have been entitled to receive a severance payment equal to twelve months of his then-current base salary, plus payment of our portion of the contributions for medical and dental insurance coverage for twelve months, subject to Mr. Shukla's execution and delivery of a general release in favor of the Company. In the case of either (i) a termination by us for a reason other than death, disability or "Cause," or (ii) a resignation for "Good Reason," in each case that occurs within 90 days prior to and in connection with a "Change of Control" (as that term is defined in his employment agreement), or within 18 months after the occurrence of a "Change of Control," then, in addition to the foregoing severance provisions, all unvested stock options and unvested awards of restricted stock held by Mr. Shukla at the time that such termination occurred would have been accelerated and deemed to have vested as of his employment termination date, and Mr. Shukla would have been entitled to full target amount of his annual performance bonus for the calendar year in which such termination occurred. Due to Mr. Shukla's resignation in December 2020, Mr. Shukla was not entitled to receive any severance compensation under his employment agreement.

Non-competition and Non-solicitation. Mr. Shukla had entered into an Invention, Non-Disclosure and Non-Competition Agreement, which provides that he will not compete with us or solicit our clients or customers for a year after the termination or cessation of his employment with us, and further provides that he will not solicit our employees for one year after the termination or cessation of his employment with us.

Potential Payments Upon Termination or Change in Control

The following table sets forth estimated compensation that would have been payable to each of our currently serving named executive officers as severance or upon a change in control of the Company under three alternative scenarios, assuming the termination triggering severance payments or a change in control took place on December 31, 2020.

| Name and Principal Position | Cash Payment (\$) | Accelerated Vesting of Stock Options (\$)(2) | Accelerated Vesting of Restricted Stock Awards (\$)(3) | Welfare Benefits (\$) (4) | Total (\$) |
|--|-------------------|--|---|------------------------------|------------|
| Laurence James Neil Cooper ⁽⁵⁾ | | | | | |
| Termination without cause or with good | | | | | |
| reason prior to change in control | 1,719,000 | 47,956 | 571,760 | 30,741 | 2,369,457 |
| Change in control only | _ | _ | _ | _ | _ |
| Change in control with termination without | | | | | |
| cause or good reason | 1,719,000 | 47,956 | 571,760 | 30,741 | 2,369,457 |
| Satyavrat Shukla ⁽⁶⁾ | | | | | |
| Termination without cause or with good | | | | | |
| reason prior to change in control | 430,500 | _ | _ | 23,056 | 453,556 |
| Change in control only | _ | _ | _ | _ | — |
| Change in control with termination without | | | | | |
| cause or good reason | 430,500 | _ | _ | 23,056 | 453,556 |
| Raffaele Baffa | | | | | |
| Termination without cause or with good | | | | | |
| reason prior to change in control | 651,000 | _ | _ | 15,412 | 666,412 |
| Change in control only | _ | _ | _ | _ | _ |
| Change in control with termination without | | | | | |
| cause or good reason | 651,000 | _ | 504,000 | 15,412 | 1,170,412 |
| Robert Hadfield | | | | | |
| Termination without cause or with good | | | | | |
| reason prior to change in control | 396,375 | _ | _ | 23,056 | 419,431 |
| Change in control only | _ | _ | _ | _ | _ |
| Change in control with termination without | | | | | |
| cause or good reason | 396,375 | 34,606 | 198,049 | 23,056 | 652,086 |
| Eleanor de Groot | | | | | |
| Termination without cause or with good | | | | | |
| reason prior to change in control | 374,850 | _ | _ | _ | 374,850 |
| Change in control only | _ | _ | _ | _ | _ |
| Change in control with termination without | | | | | |
| cause or good reason | 374,850 | 16,116 | 182,201 | _ | 573,167 |

- (1) Represent payments based on salary and bonus as well as payment of estimated cost of life, disability and accident insurance benefits during the agreement period.
- (2) Represent the value of stock options upon the applicable triggering event described in the first column. The value of stock options is based on the difference between the exercise price of the options and \$2.52, which was the closing price of our common stock on the Nasdaq Global Select Market on December 31, 2020.
- (3) Represent the value of restricted stock awards upon the applicable triggering event described in the first column, based on the closing price of our common stock on the Nasdaq Global Select Market on December 31, 2020.

- (4) Represent the estimated cost of providing employment-related benefits during the agreement period.
- (5) Dr. Cooper will cease being employed by us on April 9, 2021 and is eligible for severance benefits pursuant to a Severance Agreement which superseded and replaced the benefits set forth in the table above. See above under "Compensation Discussion and Analysis-Additional 2021 Compensation Actions" for the severance benefits provided under the Severance Agreement as well as the terms of the Cooper Consulting Agreement.
- (6) Due to Mr. Shukla's voluntary resignation in December 2020, he is no longer entitled to receive any severance compensation, and he did not receive any severance compensation as a result of his resignation.

Pay Ratio Disclosure

Under SEC rules, we are required to calculate and disclose the annual total compensation of our median employee, as well as the ratio of the annual total compensation of our median employee as compared to the annual total compensation of Dr. Cooper, our former Chief Executive Officer, for our last fiscal year. To identify our median employee, as permitted under SEC rules, we used the following methodology:

- To determine our total population of employees, we included all our employees as of December 31, 2020 regardless of their FTE schedule or anticipated employment duration and all individuals classified by us as independent contractors for tax reporting and employee benefits eligibility purposes but whose compensation we arguably control.
- To identify our median employee from our employee population, excluding our former Chief Executive Officer, we calculated the total direct compensation paid as of December 31, 2020. Total direct compensation included 2020 base salary, actual annual bonus paid for 2020 performance (paid in December) and the fair value of stock options and/or restricted stock awards granted during 2020 (using the same methodology we use for estimating the value of the equity awards granted to our named executive officers and reported in our Summary Compensation Table). For part-time employees and/or independent contractors, we used actual compensation paid as of December 31, 2020.
- Using this approach to identify the median employee, we then calculated the annual total compensation of this median employee for 2020
 using the same methodology we used for calculation of annual total compensation of our named executive officers in accordance with the
 requirements of the Summary Compensation Table.

For the fiscal year ended December 31, 2020, the annual total compensation of our median employee was \$171,953 and the annual total compensation of our former Chief Executive Officer, as reported in the Summary Compensation Table included in this filing, was \$2,090,922. Based on this information, the ratio of the annual total compensation of our former Chief Executive Officer to our median employee was 12.16 to 1. We believe this ratio is a reasonable estimate calculated in a manner consistent with Item 402(u) of Regulation S-K under the Exchange Act.

INFORMATION REGARDING THE BOARD OF DIRECTORS AND CORPORATE GOVERNANCE

This section provides further information regarding the board of directors and the independence of our directors and describes key corporate governance guidelines and practices that we have adopted.

Independence of the Board of Directors

Our board of directors has undertaken a review of the independence of our directors and considered whether any director has a relationship that, in the opinion of the board of directors, would interfere with the exercise of independent judgment in carrying out the responsibilities of a member of our board. Based upon information requested from and provided by each director concerning such director's background, employment and affiliations, including family relationships, the board has determined that all of our directors, other than Ms. Hagen and Mr. Huang are "independent directors," as such term is defined in Nasdaq Rule 5605(a)(2). In making these determinations, our board of directors considered the current and prior relationships that each non-employee director has with our company 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.

Board Leadership Structure

In February 2021, the board of directors appointed Mr. Huang, to serve as its Executive Chair. The board has elected to separate the chair function from that of the Chief Executive Officer, who serves as our principal executive officer, due to a belief that separating these functions, and empowering a non-executive director to chair the board meetings, reinforces the independence of the board in its oversight of our business and affairs. In addition, we believe that having a chair separate from the Chief Executive Officer creates an environment that is more conducive to objective evaluation and oversight of management's performance, increasing management accountability and improving the ability of the board to monitor whether management's actions are in the best interests of the Company and our stockholders. As a result, we believe that having a chair separate from the Chief Executive Officer can enhance the effectiveness of the board as a whole. The board also believed Mr. Huang's experience building and raising capital for several life science companies would complement Ms. Hagen's operational and management expertise and, as a result, elected to make Mr. Huang an Executive Chair during the period when the Company was led by an Interim Chief Executive Officer.

Director Attendance at Board and Stockholder Meetings

The board of directors met 22 times during 2020, either in person, by teleconference or videoconference. Each current director attended at least 75% of the aggregate number of meetings of the board and of the committees on which he or she served which were held during 2020 or the portion thereof that he or she served as a director or committee member.

Although we have no formal policy regarding directors' attendance at our annual meetings, we encourage such attendance by members of the board. All of the then-current directors attended our 2020 annual meeting of stockholders either in person or by teleconference.

Board Committees

The board of directors has established three standing committees: an audit committee, a compensation committee and a corporate governance and nominating committee. Each committee operates under a charter that has been approved by the board. Current copies of each committee's charter are posted on the "Investors— Corporate Governance" section of our website, www.ziopharm.com. Our website and its contents are not incorporated into this proxy statement.

The current members of the committees are as follows:

| | <u>Audit</u> | Compensation | Nominating | | | |
|----------------------------------|--------------|--------------|------------|--|--|--|
| Christopher Bowden, M.D. | | • | i | | | |
| Kevin Buchi(1) | Ğ | _ | _ | | | |
| Heidi Hagen | _ | | | | | |
| James Huang* | | | | | | |
| Robert W. Postma | | i | å | | | |
| Mary Thistle | • | Ġ | _ | | | |
| Jaime Vieser | _ | | i | | | |
| Holger Weis | • | i | _ | | | |
| * = Board Chair = Chair = Member | | | | | | |

(1) Mr. Buchi will be retiring from the board of directors and its committees at the end of his term, which expires at the annual meeting.

Audit Committee

The current members of the audit committee are Mr. Kevin Buchi, who serves as the committee's Chair, Mr. Holger Weis and Ms. Mary Thistle. The board will be appointing a new member to the audit committee to fill the vacancy created by Mr. Buchi, who will be retiring from the board of directors and its committees at the end of his term, which expires at the annual meeting. As set forth in the audit committee charter, the primary responsibility of the audit committee is to oversee our financial reporting processes and internal control system on behalf of the board. In that regard, the audit committee is responsible for, among other things, the appointment, compensation, retention and oversight of the work performed by the independent registered public accounting firm employed by us.

Each member of the audit committee is an "independent director," as such term is defined in Nasdaq Rule 5605(a)(2), and meets the criteria for independence set forth in Rule 10A-3(b)(1) under the Exchange Act. The board of directors has also determined that each of the audit committee members is able to read and understand fundamental financial statements and that at least one member of the audit committee has past employment experience in finance or accounting. The board has determined that at least one member of the audit committee, Mr. Kevin Buchi, is an "audit committee financial expert," as that term is defined in Item 407(d)(5)(ii) of Regulation S-K promulgated under the Exchange Act.

The audit committee held six meetings during 2020.

Compensation Committee

The current members of the compensation committee are Ms. Thistle, who serves as the committee's Chair, Dr. Bowden, Mr. Postma and Mr. Weis. As set forth in the compensation committee charter, the compensation committee reviews our compensation policies and practices and makes recommendations to the board of directors in connection with all compensation matters affecting our executive officers.

Each member of the compensation committee is an "independent director," as such term is defined in Nasdaq Rule 5605(a)(2), and meets the criteria for independence set forth in Rule 10A-3(b)(1) under the Exchange Act.

The compensation committee held five meetings during 2020.

Corporate Governance and Nominating Committee

The current members of the corporate governance and nominating committee are Mr. Robert Postma, who serves as the committee's Chair, Dr. Christopher Bowden and Mr. Jaime Vieser. As set forth in the corporate

governance and nominating committee charter, the primary responsibility of the corporate governance and nominating committee is to consider and make recommendations to the board of directors concerning the appropriate size, function and needs of the board and its committees. In that regard, the corporate governance and nominating committee is, among other things, responsible for establishing criteria for membership on board, recruiting and recommending candidates to fill newly created or vacant positions on the board and reviewing any candidates recommended by stockholders. In addition, the corporate governance and nominating committee evaluates and assesses the performance of the board as a whole and its committees.

Each member of the corporate governance and nominating committee is an "independent director," as such term is defined in Nasdaq Rule 5605(a)(2), and meets the criteria for independence set forth in Rule 10A-3(b)(1) under the Exchange Act.

The corporate governance and nominating committee held seven meetings during 2020.

Director Nomination Process

The corporate governance and nominating committee (or a subcommittee thereof) recruits and considers director candidates and presents qualified candidates to the full board of directors for consideration. There is no fixed process for identifying and evaluating potential candidates to be nominees for directors, and there is no fixed set of qualifications that must be satisfied before a candidate will be considered. Rather, the corporate governance and nominating committee has the flexibility to consider such factors as it deems appropriate. These factors may include education, general business and industry experience, ability to act on behalf of stockholders, potential concerns regarding independence or conflicts of interest and other factors relevant in evaluating board nominees.

The corporate governance and nominating committee believes that a board comprised of directors with diverse skills and experiences relevant to our industry and operations will result in efficient and competent oversight of our various core competencies, which include drug development, strategic partnering, commercialization activities, regulatory compliance, corporate finance and accounting. As such, the corporate governance and nominating committee gives consideration to the interplay of a director candidate's experience with that of other members of the board and the evolving needs of our business.

In April 2019, our board of directors updated our corporate governance policies to reflect the importance our board places on diversity. More specifically, we have updated our policies to emphasize our commitment to seeking to attain diversity and balance among directors of race, gender, geography, thought, viewpoints, backgrounds, skills, experience, and expertise. As a result, under our policies any search firm retained to assist the corporate governance and nominating committee in seeking candidates for the board of directors will be instructed to seek to include diverse candidates in terms of race, gender, geography, thought, viewpoints, backgrounds, skills, experience, and expertise from, among other areas, the traditional corporate environment, government, academia, private enterprise, non-profit organizations, and professions such as accounting, finance, marketing, human resources, and legal services.

Qualified candidates will be considered without regard to race, color, religion, sex, ancestry, national origin or disability, and the corporate governance and nominating committee will consider director candidates recommended by security holders. If the corporate governance and nominating committee approves a candidate for further review following an initial screening, the corporate governance and nominating committee will establish an interview process for the candidate. Generally, the candidate will meet with at least one member of the corporate governance and nominating committee, along with other members of the board, and management, including our Chief Executive Officer. Contemporaneously with the interview process, the corporate governance and nominating committee will conduct a comprehensive conflicts-of-interest assessment of the candidate. The corporate governance and nominating committee will consider reports of the interviews and the conflicts-of-interest assessment to determine whether to recommend the candidate to the full board. The corporate governance and nominating committee will also take into consideration the candidate's personal attributes, including, without limitation, personal integrity, loyalty to us and concern for our success and welfare, willingness to apply sound and independent business judgment, awareness of a director's vital part in our good

corporate citizenship and image, time available for meetings and consultation on our matters and willingness to assume broad, fiduciary responsibility.

Recommendations for candidates to be considered for election to the board of directors at our annual stockholders' meeting may be submitted to the corporate governance and nominating committee by our stockholders. In order to make such a recommendation, a stockholder must submit the recommendation in writing to the Chairperson of the corporate governance and nominating committee, in care of our Secretary at our principal executive offices at One First Avenue, Parris Building 34, Navy Yard Plaza, Third Floor, Boston, Massachusetts 02129, at least 120 days prior to the mailing date of the previous year's annual meeting proxy statement. To enable the corporate governance and nominating committee to evaluate the candidate's qualifications, stockholder recommendations must include the following information:

- The name and address of the nominating stockholder and of the director candidate;
- A representation that the nominating stockholder is a holder of record of ours entitled to vote at the current year's annual meeting;
- A description of any arrangements or understandings between the nominating stockholder and the director candidate or candidates being recommended pursuant to which the nomination or nominations are to be made by the stockholder;
- A resume detailing the educational, professional and other information necessary to determine if the nominee is qualified to become a director of ours;
- Such other information regarding each nominee proposed by such stockholder as would have been required to be included in a proxy statement filed pursuant to the proxy rules of the SEC had each nominee been nominated by the board; and
- The consent of each nominee to serve as a director of ours if so elected.

Each of the individuals nominated for re-election to the board of directors pursuant to Proposal 1 were approved for such nomination by the corporate governance and nominating committee.

Risk Management and Oversight

One of the board's key functions is informed oversight of the Company's risk management process. The board does not have a standing risk management committee, but rather administers this oversight function directly through the board as a whole, as well as through various board standing committees that address risks inherent in their respective areas of oversight. In particular, our board is responsible for monitoring and assessing strategic risk exposure, including a determination of the nature and level of risk appropriate for the Company. Our audit committee has the responsibility to consider and discuss our major financial risk exposures and the steps our management has taken to monitor and control these exposures, including guidelines and policies to govern the process by which risk assessment and management is undertaken. Our corporate governance and nominating committee monitors the effectiveness of our corporate governance guidelines. Our compensation committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking.

In carrying out their risk oversight functions, the board of directors and its committees routinely request and review management updates, reports from the independent auditors and legal and regulatory advice from outside experts, as appropriate, to assist in discerning and managing important risks that may be faced by the Company. The board of directors is committed to continuing to ensure and evolve its risk oversight practices as appropriate given the stage of the Company's evolution as an immuno-oncology company and the fast-paced changes in the biotechnology industry. Regarding the COVID-19 pandemic, our management is meeting frequently to address concerns of our employees and business, as well as updating and communicating with the full board regularly. The full board has oversight and has been engaged concerning the monitoring and identification of risks to the Company, and actions we are taking to mitigate risks related to this pandemic.

Stockholder Communications with Directors

We have established means for stockholders and others to communicate with the board of directors. If a stockholder wishes to address a matter regarding our financial statements, accounting practices or internal controls, the matter should be submitted in writing addressed to the chairperson of the audit committee in care of the Secretary at our principal executive offices at One First Avenue, Parris Building 34, Navy Yard Plaza, Third Floor, Boston, Massachusetts 02129. If the matter relates to our governance practices, business ethics or corporate conduct, it should be submitted in writing addressed to the Chairperson of the corporate governance and nominating committee in care of the principal financial officer at our principal executive offices. If a stockholder is unsure where to direct a communication, the stockholder may direct it in writing to the chairperson of the audit committee, or to any one of our independent directors, in care of the principal financial officer at our principal executive offices. All of these stockholder communications will be forwarded by the principal financial officer to the addressee.

Compensation Committee Interlocks and Insider Participation

The current members of the compensation committee are Ms. Mary Thistle, Dr. Christopher Bowden, Mr. Robert Postma and Mr. Holger Weis. No member of the compensation committee has ever been an officer or employee of the Company or any subsidiary of ours and no member of the compensation committee had any relationship with us during 2020 requiring disclosure under Item 404 of Regulation S-K of the SEC.

None of our executive officers has served as a director or member of the compensation committee (or other committee serving an equivalent function) of any other entity that has an executive officer serving as a member of our board of directors or our compensation committee.

Code of Ethics and Business Conduct

The board of directors adopted a Code of Ethics and Business Conduct to be applicable to all officers, directors and employees. The Code of Ethics and Business Conduct is intended to be designed to deter wrong-doing and promote honest and ethical behavior, full, fair, timely, accurate and understandable disclosure, and compliance with applicable laws. In addition to provisions that are applicable to officers, directors and employees generally, the Code of Ethics and Business Conduct contains provisions that are specifically applicable to our Chief Executive Officer and senior financial officer(s). The Code of Ethics and Business Conduct is available on our website at www.ziopharm.com and a copy may be obtained without charge upon written request to our Legal Affairs department at our principal executive offices at One First Avenue, Parris Building 34, Navy Yard Plaza, Third Floor, Boston, Massachusetts 02129. Our website and its contents are not incorporated into this proxy statement.

Corporate Governance Guidelines

The board of directors has adopted Corporate Governance Guidelines to assure that the board of directors will have the necessary authority and practices in place to review and evaluate our business operations as needed and to make decisions that are independent of our management. The guidelines are also intended to align the interests of directors and management with those of our stockholders. The Corporate Governance Guidelines set forth the practices the board of directors intends to follow with respect to, among other things, board composition and selection including diversity, board meetings and involvement of senior management, Chief Executive Officer performance evaluation and succession planning, and board committees and compensation.

Report of the Audit Committee

The Audit Committee has reviewed and discussed the audited financial statements for the fiscal year ended December 31, 2020 with management of the Company. The Audit Committee has discussed with the independent registered public accounting firm the matters required to be discussed by the applicable requirements of the

Public Company Accounting Oversight Board ("PCAOB") and the SEC. The Audit Committee has also received the written disclosures and the letter from the independent registered public accounting firm required by applicable requirements of the PCAOB regarding the independent accountants' communications with the audit committee concerning independence, and has discussed with the independent registered public accounting firm the accounting firm's independence. Based on the foregoing, the Audit Committee has recommended to the board of directors that the audited financial statements be included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2020.

AUDIT COMMITTEE

Kevin Buchi (chair) Mary Thistle Holger Weis

This report is not "soliciting material," is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference in any of our filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether before or after the date hereof and irrespective of any general incorporation language in any such filing.

DIRECTOR COMPENSATION

Non-Employee Director Compensation Policy

Under our director compensation policy, each non-employee director was entitled to the following in 2020:

- an annual retainer fee of \$50,000 for service on the board; and
- additional annual retainer fees for board committee service as follows:

| | Chair | Member |
|---|----------|----------|
| Audit Committee | \$20,000 | \$12,000 |
| Compensation Committee | 15,000 | 9,000 |
| Corporate Governance and Nominating Committee | 10,000 | 6,000 |

The non-executive board chair also receives further annualized cash compensation of \$25,000. All cash retainers are paid on a quarterly basis in arrears to non-employee directors who continue to serve as members of the board on the last business day of each calendar quarter.

In addition, under our director compensation policy, each director receives an annual equity grant equal to \$150,000. Each director may elect to receive their equity grant in the form of restricted shares of our common stock and/or options to purchase shares of our common stock, with the number of restricted shares determined based on our then-current stock price and the number of options determined using the Black-Scholes methodology.

Under our director compensation policy, in connection with a director's initial election to the board, he or she receives options to purchase shares of our common stock with a value at the time of grant equal to \$250,000, with the number of options determined using the Black-Scholes methodology. The award shall have an exercise price equal to the fair market value of the common stock on the grant date and will vest on the second anniversary of the director joining our board.

As set forth in its written charter, the compensation committee annually reviews director compensation practices in consultation with our compensation consultant and recommends any changes for adoption by the full board. As such, the director compensation described above is subject to change at the discretion of the board.

Director Compensation Table

The following table sets forth information regarding the compensation earned for service on our board of directors by our non-employee directors during the year ended December 31, 2020. Ms. Hagen, who was appointed our Interim Chief Executive Officer in February 2021, is included in the table below because she served as a non-executive director during fiscal year 2020. We reimburse members of our board of directors for reasonable travel and out-of-pocket expenses incurred in connection with attending board of directors and committee meetings.

| Name | Fees Earned or Paid in Cash (\$) | Option Awards (1) (\$) | Stock Awards (1) (\$) | Total (\$) |
|-----------------------------|-------------------------------------|------------------------|-----------------------|------------|
| Christopher Bowden | 56,635 | | | 56,635 |
| Scott Braunstein(2) | 52,266 | | _ | 52,266 |
| Kevin Buchi(3) | 19,402 | 252,733 | - | 272,135 |
| Elan Ezickson(4) | 62,826 | _ | _ | 62,826 |
| Heidi Hagen | 69,000 | _ | _ | 69,000 |
| James Huang ⁽⁵⁾ | 22,283 | 256,018 | _ | 278,301 |
| Douglas Pagán(6) | 50,217 | _ | _ | 50,217 |
| Scott Tarriff(7) | 97,565 | _ | _ | 97,565 |
| Mary Thistle ⁽⁸⁾ | 6,250 | _ | _ | 6,250 |
| Jaime Vieser(9) | 2,174 | _ | _ | 2,174 |
| Holger Weis(9) | 2,174 | - | _ | 2,174 |

- (1) Represents compensation expense recognized for financial statement purposes under ASC Topic 718. For Mr. Buchi, such amount consists of an option award granted on October 8, 2020 with a grant date fair value of \$252,733. For Mr. Huang, such amount consists of an option award granted on July 20, 2020 with a grant date fair value of \$256,018. For a discussion of the assumptions relating to our valuations of these stock options, please see Note 14 to the financial statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020 filed with the SEC on March 1, 2021. These costs reflect our accounting expense for these stock options and do not correspond to the actual value that may be recognized by the directors.
- (2) Dr. Braunstein left the board effective November 19, 2020.
- (3) Mr. Buchi was appointed to the board effective September 21, 2020.
- (4) Mr. Ezickson left the board effective December 3, 2020.
- (5) Mr. Huang was appointed to the board effective July 20, 2020.
- (6) Mr. Pagán left the board effective September 18, 2020.
- (7) Mr. Tarriff left the board effective December 15, 2020.
- (8) Ms. Thistle was appointed to the board effective November 15, 2020.
- (9) Mr. Vieser and Mr. Weis were each elected to the board effective December 15, 2020.

SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS

The following table provides certain information with respect to all of our equity compensation plans in effect as of December 31, 2020.

| <u>Plan Category</u> | Number of Securities to be Issued Upon Exercise of Outstanding Options (a) | Exerci | ted-Average ise Price of ing Options (b) | Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) (c) |
|------------------------------------|--|--------|--|--|
| Equity compensation plans approved | | | | |
| by stockholders: | | | | |
| 2003 Stock Option Plan | <u> </u> | \$ | _ | |
| 2012 Plan | 5,659,018 | \$ | 4.01 | _ |
| 2020 Plan | 1,173,368 | \$ | 2.83 | 6,004,665(1) |
| Total: | 6,832,386 | \$ | 3.81 | 6,004,665 |
| Equity compensation plans not | | | | |
| approved by stockholders: | | | | |
| Inducement awards | 588,333(2) | \$ | 5.78 | _ |
| | | | | |

⁽¹⁾ The number of shares available for future issuance is further constrained by the maximum number of shares authorized to be issued by our charter, which maximum is 250,000,000 shares as of the date hereof. Of this amount, 5,714,648 shares remained available for issuance as of December 31, 2020.

⁽²⁾ Represents shares of our common stock underlying stock option awards which were issued outside of our equity incentive plans to certain employees as an inducement material the employee's acceptance of employment with us in accordance with Nasdaq Listing Rule 5635(c)(4).

LIMITATION OF LIABILITY AND INDEMNIFICATION

Our charter limits the personal liability of directors for breach of fiduciary duty to the maximum extent permitted by the Delaware corporation law. Our charter provides that no director will have personal liability to us or to stockholders for monetary damages for breach of fiduciary duty as a director. These provisions do not, however, eliminate or limit the liability of any of the directors 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;
- · voting or assenting to unlawful payments of dividends, stock repurchases or other distributions; or
- any transaction from which the director derived an improper personal benefit.

Any amendment, repeal or modification of these provisions will not adversely affect any right or protection of a director in respect of any act or omission occurring prior to such amendment, repeal or modification. If the Delaware corporation law is amended to provide for further limitations on the personal liability of directors of corporations, then the personal liability of the directors will be further limited to the greatest extent permitted by the Delaware corporation law.

Our charter also provides that we must indemnify directors and officers in certain circumstances. We believe this provision is important in attracting and retaining qualified individuals to serve as directors and executive officers.

We maintain director and officer insurance providing for indemnification of our directors and officers for certain liabilities, including certain liabilities under the Securities Act. We also maintain a general liability insurance policy that covers certain liabilities of directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers. We have also entered into indemnification agreements with each of our directors and named executive officers.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The following discussion relates to certain transactions that involve both the Company and one of our executive officers, director nominees or five-percent stockholders, each of whom we refer to as a "related party." For purposes of this discussion, a "related-party transaction" is a transaction, arrangement or relationship:

- in which we participate;
- that involves an amount in excess of \$120,000; and
- in which a related party has a direct or indirect material interest.

Related-Party Transaction Policy

We have a related person transaction policy that sets forth our procedures for the identification, review, consideration and approval or ratification of related person transactions. For purposes of our policy only, a related person transaction is a transaction, arrangement or relationship, or any series of similar transactions, arrangements or relationships, in which we and any related person are, were or will be participants in which the amount involved exceeds \$120,000. Transactions involving compensation for services provided to us as an employee or director are not covered by this policy. A related person is any executive officer, director or beneficial owner of more than 5% of any class of our voting securities, including any of their immediate family members and any entity owned or controlled by such persons.

Under the policy, if a transaction has been identified as a related person transaction, including any transaction that was not a related person transaction when originally consummated or any transaction that was not initially identified as a related person transaction prior to consummation, our management must present information regarding the related person transaction to our audit committee, or, if audit committee approval would be inappropriate, to another independent body of our board of directors, for review, consideration and approval or ratification. The presentation must include a description of, among other things, the material facts, the interests, direct and indirect, of the related persons, the benefits to us of the transaction and whether the transaction is on terms that are comparable to the terms available to or from, as the case may be, an unrelated third party or to or from employees generally. Under the policy, we will collect information that we deem reasonably necessary from each director, executive officer and, to the extent feasible, significant stockholder to enable us to identify any existing or potential related person transactions and to effectuate the terms of the policy.

In considering related person transactions, our audit committee, or other independent body of our board of directors, will take into account the relevant available facts and circumstances including, but not limited to: the risks, costs and benefits to us; the impact on a director's independence in the event that the related person is a director, immediate family member of a director or an entity with which a director is affiliated; the availability of other sources for comparable services or products; and the terms available to or from, as the case may be, unrelated third parties or to or from employees generally.

The policy requires that, in determining whether to approve, ratify or reject a related person transaction, our audit committee, or other independent body of our board of directors, must consider, in light of known circumstances, whether the transaction is in, or is not inconsistent with, our best interests and those of our stockholders, as our audit committee, or other independent body of our board of directors, determines in the good faith exercise of its discretion.

Certain Related-Party Transactions

Except as described below, there have been no transactions since January 1, 2020 in which we have been a participant in which the amount involved exceeded or will exceed \$120,000, and in which any of our directors,

executive officers or holders of more than 5% of our common stock, or any members of their immediate family, had or will have a direct or indirect material interest, other than compensation arrangements which are described elsewhere in this filing under "Executive Compensation" and "Director Compensation."

WaterMill Settlement Agreement

On February 4, 2021, we entered into an agreement (the "Settlement Agreement") with WaterMill Asset Management Corp. and Robert W. Postma (collectively, the "WaterMill Parties"). Pursuant to the Settlement Agreement, we increased the size of our board of directors from eight to nine directors and appointed Mr. Postma to fill the newly created directorship.

The Settlement Agreement includes certain customary standstill restrictions applicable from February 4, 2021 until the date that is the earlier of (i) January 1, 2022 and (ii) thirty (30) calendar days prior to the nomination deadline for our 2022 annual meeting of stockholders (the "Standstill Period"). During the Standstill Period, the WaterMill Parties are, among other things, restricted from engaging in any solicitation of proxies or written consents with respect to the election or removal of directors or, with certain exceptions, any other matter or proposal, or acquiring voting stock that would result in the WaterMill Parties having beneficial ownership of more than 9.9% of our outstanding voting stock.

Under the Settlement Agreement, we agreed that during the Standstill Period, we will nominate each of Mr. Postma, Jaime Vieser and Holger Weis for election at any stockholder meeting at which directors are to be elected and will recommend, support and solicit proxies for the election of each of Messrs. Postma, Vieser and Weis.

The Settlement Agreement also provides that at any meeting of our stockholders held prior to the expiration of the Standstill Period, the WaterMill Parties will vote all of its shares of our securities in accordance with our board's recommendation, with respect to the election, removal and/or replacement of directors. The WaterMill Parties retain the right to vote in its sole discretion with respect to any other publicly announced proposal not made in breach of the Settlement Agreement.

Further, pursuant to the Settlement Agreement, we agreed to reimburse the WaterMill Parties for up to \$400,000 of its reasonable out-of-pocket fees and expenses out of a total of approximately \$650,000 in fees and expenses actually incurred by the WaterMill Parties in connection with (i) the WaterMill Parties' solicitation of written consents from our stockholders to vote in favor of certain proposals, as set forth in the definitive consent statement filed by the WaterMill Parties on October 30, 2020, and (ii) the negotiation, execution and effectuation of the Settlement Agreement.

Collaboration with Vineti Inc.

On July 9, 2020, we entered into a master service agreement and statement of work with Vineti, Inc. ("Vineti"). Under the agreements, Vineti is developing a software platform to coordinate and orchestrate the order, cell collection and manufacturing process for our TCR-T clinical programs. We will pay Vineti approximately \$459,000 for the implementation and first year annual subscription for the platform, as well as additional subscription and service fees in the future. Ms. Heidi Hagen, who became a director in June 2019 and our Interim Chief Executive Officer effective February 25, 2021, was a co-founder and former officer of Vineti. Ms. Hagen currently serves as an advisor to Vineti, which the board does not believe is a conflict with her role as our Interim Chief Executive Officer.

Joint Venture with TriArm Therapeutics Ltd.

On December 19, 2018, we launched Eden BioCell, a joint venture with TriArm Therapeutics Ltd. ("TriArm") to lead the commercialization of our *Sleeping Beauty*-generated CAR-T therapies in the People's Republic of China (including Macau and Hong Kong), Taiwan and Korea. Under our agreements with TriArm,

we licensed to Eden BioCell the rights in Greater China for its third-generation *Sleeping Beauty*-generated CAR-T therapies targeting the CD19 antigen. Eden BioCell is owned equally by us and TriArm and the parties share decision-making authority. TriArm has contributed \$10.0 million to Eden BioCell and has committed up to an additional \$25.0 million to this joint venture. TriArm also manages all clinical development in the territory pursuant to a Master Services Agreement between TriArm and Eden BioCell. James Huang, who became a director of our Company in July 2020, and was appointed Chair of our board of directors in January 2021 and then Executive Chair of our board of directors in February 2021, was the founder and serves as managing partner of Panacea Venture, which is an investor in TriArm. Mr. Huang also serves as a member of Eden BioCell's board of directors.

Indemnification Agreements

We have entered into an indemnification agreement with each of our directors and executive officers. These indemnification agreements and our charter and our bylaws indemnify each of our directors and officers to the fullest extent permitted by the Delaware General Corporation Law.

DELINQUENT SECTION 16(A) REPORTS

Section 16(a) of the Exchange Act requires our directors and executive officers, and persons who own more than 10% of a registered class of our equity securities, to file with the SEC reports of beneficial ownership and reports of changes in beneficial ownership in our securities. Based solely on a review of such reports filed electronically with the SEC, we believe that during 2020, all Section 16(a) filings applicable to our directors, officers, and 10% stockholders were filed on a timely basis, except for one Form 3 that was filed by Robert W. Postma, one Form 3 that was filed by Jaime Vieser and one Form 3 that was filed by Holger Weis, each in connection with such reporting person's appointment as a director of our Company.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information with respect to the beneficial ownership of common stock as of March 12, 2021 for:

- each person, or group of affiliated persons, who is known by us to be the beneficial owner of greater than five percent of our outstanding common stock;
- each of our directors and director nominees;
- each of our named executive officers named in the Summary Compensation Table above; and
- all of our directors and executive officers as a group.

Beneficial ownership is determined in accordance with the rules of the SEC. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities, or have the right to acquire such powers within 60 days. Common stock subject to options that are currently exercisable or exercisable within 60 days of March 12, 2021 are deemed to be outstanding and beneficially owned by the person holding the options. These shares, however, are not deemed outstanding for the purposes of computing the percentage ownership of any other person. Except as otherwise indicated, all persons listed below have sole voting and investment power with respect to the shares beneficially owned by them, subject to applicable community property laws. Percentage ownership calculations are based on 215,180,173 shares outstanding as of March 12, 2021. Except as otherwise noted below, the address for persons listed in the table is c/o Ziopharm Oncology, Inc., One First Avenue, Parris Building 34, Navy Yard Plaza, Third Floor, Boston, Massachusetts 02129.

| Name of Beneficial Owner | Number of Shares Beneficially Owned | Percentage of Common Stock Beneficially Owned (%) |
|---|--|---|
| 5% Stockholders: | | |
| MSD Credit Opportunity Master Fund, L.P.(1) | 22,101,509 | 9.9% |
| Miller Value Partners, LLC(2) | 20,042,006 | 9.2% |
| BlackRock, Inc.(3) | 18,560,333 | 8.6% |
| The Vanguard Group, Inc.(4) | 15,969,421 | 7.4% |
| White Rock Capital Management, L.P.(5) | 13,415,758 | 6.1% |
| Discovery Capital Management, LLC(6) | 10,994,728 | 5.1% |
| Directors, Director Nominees and Named Executive Officers: | | |
| Christopher Bowden M.D.(7) | 50,562 | _ |
| Kevin Buchi(8) | _ | - |
| Heidi Hagen ⁽⁹⁾ | 121,780 | * |
| James Huang | _ | <u> </u> |
| Robert W. Postma(10) | 6,324,914 | 2.9% |
| Mary Thistle | _ | _ |
| Jaime Vieser(11) | 926,154 | * |
| Holger Weis(12) | 87,440 | |
| Laurence James Neil Cooper(13) | 2,197,247 | 1.0% |
| Satyavrat Shukla ⁽¹⁴⁾ | 125,000 | * |
| Timothy Cunningham | _ | _ |
| Raffaele Baffa(15) | 200,000 | * |
| Robert Hadfield(16) | 503,695 | * |
| Eleanor de Groot(17) | 521,067 | * |
| All of our current directors and executive officers as a group (15 persons)(18) | 11,413,393 | 5.2% |

- * Less than one percent.
- (1) Based in part on a Schedule 13G/A filed with the SEC on February 14, 2020 by MSD Partners, L.P. ("MSD Partners"). MSD Partners is the investment manager of, and may be deemed to beneficially own securities beneficially owned by, MSD Credit Opportunity Master Fund, L.P. MSD Partners (GP), LLC ("MSD GP") is the general partner of, and may be deemed to beneficially own securities beneficially owned by, MSD Partners. Each of Glenn R. Fuhrman, John C. Phelan and Marc R. Lisker is a manager of, and may be deemed to beneficially own securities beneficially owned by, MSD GP. The 22,101,509 shares includes 6,949,993 out of the 7,575,758 shares of common stock issuable upon the full exercise of a warrant, which is the number of shares issuable upon exercise as limited by the Beneficial Ownership Limitation (as defined below) as of March 12, 2021. Such warrant is only exercisable to the extent that the holder thereof, together with its affiliates, would beneficially own no more than 9.99% of the outstanding shares of our common stock after giving effect to such exercise (the "Beneficial Ownership Limitation"). As a result of the Beneficial Ownership Limitation, the number of shares that may be issued to the holder upon exercise of the warrant may change depending upon changes in the outstanding shares of our common stock. Upon 61 days' prior notice to the Company, the holder may increase, decrease or terminate the Beneficial Ownership Limitation. The address of MSD Credit Opportunity Master Fund, L.P. is c/o Maples Corporate Services Limited, P.O. Box 309, Ugland House, Grand Cayman, KY1-1104, Cayman Islands.
- (2) Based in part on a Schedule 13G/A filed with the SEC on February 16, 2021 by Miller Value Partners, LLC ("Miller Value"). Miller Value, an investment adviser, is the beneficial owner of 16,254,127 shares and has shared voting power and shared dispositive power with respect to all such shares. William H. Miller III Living Trust, the control person of Miller Value, may be deemed to exercise voting and/or dispositive power over the shares held for the account of Miller Value. Aggregate beneficial ownership reported by Miller Value includes beneficial ownership of Miller Opportunity Trust, a registered investment company. The 16,254,127 shares includes 3,787,879 shares of common stock issuable upon the exercise of a warrant. Such warrant is only exercisable to the extent that the holder thereof, together with its affiliates, would beneficially own no more than the Beneficial Ownership Limitation. As a result of the Beneficial Ownership Limitation, the number of shares that may be issued to the holder upon exercise of the warrant may change depending upon changes in the outstanding shares of our common stock. Upon 61 days' prior notice to the Company, the holder may increase, decrease or terminate the Beneficial Ownership Limitation. The address of Miller Value is One South Street, Suite 2550. Baltimore, MD 21202.
- (3) Based solely on a Schedule 13G/A filed with the SEC on February 10, 2021 by The Vanguard Group, Inc. ("Vanguard"). Vanguard is the beneficial owner of 15,969,421 shares and has shared voting power with respect to 408,094 shares, sole dispositive power with respect to 15,417,939 shares and shared dispositive power with respect to 551,482 shares. Aggregate beneficial ownership reported by Vanguard includes beneficial ownership of its subsidiaries, Vanguard Asset Management, Limited, Vanguard Fiduciary Trust Company, Vanguard Global Advisors, LLC, Vanguard Group (Ireland) Limited, Vanguard Investments Australia Ltd, Vanguard Investments Canada Inc., Vanguard Investments Hong Kong Limited and Vanguard Investments UK, Limited. The address of Vanguard is 100 Vanguard Blvd., Malvern, PA 19355.
- (4) Based solely on a Schedule 13G/A filed with the SEC on February 1, 2021 by Blackrock, Inc., BlackRock, Inc., as a parent holding company, is the beneficial owner of 18,560,333 shares and has sole voting power with respect to 18,240,052 shares and sole dispositive power with respect to 18,560,333 shares. Aggregate beneficial ownership reported by BlackRock, Inc. is on a consolidated basis and includes beneficial ownership of its subsidiaries, BlackRock Life Limited, BlackRock Advisors, LLC, BlackRock (Netherlands) B.V., BlackRock Institutional Trust Company, National Association, BlackRock Asset Management Ireland Limited, BlackRock Financial Management, Inc., BlackRock Japan Co., Ltd., BlackRock Asset Management Schweiz AG, BlackRock Investment Management, LLC, BlackRock Investment Management (UK) Limited, BlackRock Asset Management Canada Limited, BlackRock Investment Management (Australia) Limited, BlackRock Fund Advisors and BlackRock Fund Managers Ltd. The address of BlackRock, Inc. is 55 East 52nd Street, New York, New York 10055.
- (5) Based in part on a Schedule 13G/A filed with the SEC on November 18, 2020 by White Rock Capital Management LP. White Rock Capital Management LP is the beneficial owner of 9,627,879 shares and has shared voting power with respect to 9,627,879 shares and shared dispositive power with respect to 9,627,879 shares. Aggregate beneficial ownership reported by White Rock Capital Management LP is on a

consolidated basis and includes beneficial ownership of the following persons: White Rock Capital Management, L.P., a Texas limited partnership, White Rock Capital Partners, L.P., a Texas limited partnership, White Rock Capital (TX), Inc., a Texas corporation, Thomas U. Barton, and Joseph U. Barton. The 13,415,758 shares shown in the table above includes 3,787,879 shares of common stock issuable upon the exercise of a warrant. Such warrant is only exercisable to the extent that the holder thereof, together with its affiliates, would beneficially own no more than the Beneficial Ownership Limitation. As a result of the Beneficial Ownership Limitation, the number of shares that may be issued to the holder upon exercise of the warrant may change depending upon changes in the outstanding shares of our common stock. Upon 61 days' prior notice to the Company, the holder may increase, decrease or terminate the Beneficial Ownership Limitation. The address for White Rock Capital Management LP is 3131 Turtle Creek Boulevard, Suite 800, Dallas, Texas 75219.

- (6) Based solely on a Schedule 13G filed with the SEC on January 7, 2021 by Discovery Capital Management, LLC ("Discovery"). Discovery is the beneficial owner of 10,994,728 shares and has shared voting power with respect to 10,994,728 shares and shared dispositive power with respect to 10,994,728 shares. Robert K. Citrone, the control person of Discovery, may be deemed to exercise voting and/or dispositive power over the shares held for the account of Discovery. Aggregate beneficial ownership reported by Discovery includes beneficial ownership of Discovery Global Opportunity Master Fund, Ltd., a Cayman Islands limited company. The address of Discovery is 100 Vanguard Blvd., Malvern, PA 19355.
- (7) Consists of 50,562 shares of common stock issuable upon the exercise of options exercisable within 60 days of March 12, 2021.
- (8) Mr. Buchi will be retiring from the board of directors and its committees at the end of his term, which expires at the annual meeting.
- (9) Consists of 121,780 shares of common stock held by Ms. Hagen.
- (10) Consists of (i) 1,178,862 shares of common stock held by Mr. Postma, (ii) 4,195,508 shares of common stock held by WaterMill Asset
 Management Corp., where Mr. Postma serves as the principal, (iii) 3,574 shares of common stock held by the IRA of Mr. Postma's spouse and (iv)
 946,970 shares of common stock issuable upon the exercise of warrants exercisable within 60 days of March 12, 2021.
- (11) Consists of (i) 926,154 shares of common stock held by Mr. Vieser and (ii) 325,000 shares of common stock held in Uniform Transfer to Minors Act accounts by Mr. Vieser's children.
- (12) Consists of (i) 36,000 shares of common stock held directly by Mr. Weis, (ii) 30,000 shares of common stock held jointly by Mr. Weis and his spouse, (iii) 19,000 shares of common stock held by Mr. Weis's spouse and (iv) 2,440 shares of common stock held by Mr. Weis's children.
- (13) Consists of (i) 1,799,280 shares of common stock held by Dr. Cooper and (ii) 397,967 shares of common stock issuable upon the exercise of options exercisable within 60 days of March 12, 2021.
- (14) To the best of our knowledge, consists of 125,000 shares of common stock issuable upon the exercise of options exercisable within 60 days of March 12, 2021.
- (15) Consists of 200,000 shares of common stock held by Dr. Baffa.
- (16) Consists of (i) 176,819 shares of common stock held by Mr. Hadfield and (ii) 326,876 shares of common stock issuable upon the exercise of options exercisable within 60 days of March 12, 2021.
- (17) Consists of (i) 257,148 shares of common stock held by Dr. de Groot and (ii) 263,919 shares of common stock issuable upon the exercise of options exercisable within 60 days of March 12, 2021.
- (18) Consists of (i) 6,594,950 shares of common stock and (ii) 1,271,434 shares of common stock issuable upon the exercise of options exercisable within 60 days of March 12, 2021. This calculation includes 2,197,247 shares beneficially owned by Dr. Cooper and 125,000 shares beneficially owned by Mr. Shukla, who are no longer executive officers of the company.

HOUSEHOLDING OF PROXY MATERIALS

The SEC has adopted rules that permit companies and intermediaries (such as brokers) to satisfy the delivery requirements for Notices of Internet Availability of Proxy Materials or other annual meeting materials with respect to two or more stockholders sharing the same address by delivering a single Notice of Internet Availability of Proxy Materials or other annual meeting materials addressed to those stockholders. This process, which is commonly referred to as "householding," potentially means extra convenience for stockholders and cost savings for companies.

This year, a number of brokers with account holders who are our stockholders will be "householding" our proxy materials. A single Notice of Internet Availability of Proxy Materials or other annual meeting materials will be delivered to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders. Once you have received notice from your broker that they will be "householding" communications to your address, "householding" will continue until you are notified otherwise or until you revoke your consent. If, at any time, you no longer wish to participate in "householding" and would prefer to receive a separate Notice of Internet Availability of Proxy Materials or other annual meeting materials, please notify your broker. Direct your written request to Ziopharm Oncology, Inc., One First Avenue, Parris Building 34, Navy Yard Plaza, Third Floor, Boston, Massachusetts 02129, Attention: Legal Affairs Department or contact us at (617) 259-1970. Stockholders who currently receive multiple copies of the Notice of Internet Availability of Proxy Materials or other annual meeting materials at their addresses and would like to request "householding" of their communications should contact their brokers.

OTHER MATTERS

The board of directors knows of no other matters that will be presented for consideration at the annual meeting. If any other matters are properly brought before the annual meeting, it is the intention of the persons named in the accompanying proxy to vote on such matters in accordance with their best judgment.

By Order of the Board of Directors,

Robert Hadfield

Chief Legal Officer and Secretary

April 7, 2021

A copy of the Company's Annual Report to the Securities and Exchange Commission on Form 10-K for the fiscal year ended December 31, 2020 is available without charge upon written request to: Corporate Secretary, One First Avenue, Parris Building 34, Navy Yard Plaza, Third Floor Boston, Massachusetts 02129.

AMENDMENT TO THE ZIOPHARM ONCOLOGY, INC. AMENDED AND RESTATED CERTIFICATE OF INCORPORATION

CERTIFICATE OF AMENDMENT OF THE RESTATED CERTIFICATE OF INCORPORATION OF ZIOPHARM ONCOLOGY, INC.

(Pursuant to Section 242 of the General Corporation Law of the State of Delaware)

Ziopharm Oncology, Inc. (the "Corporation"), a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the "General Corporation Law"),

DOES HEREBY CERTIFY:

1. A resolution was duly adopted by the Board of Directors of the Corporation pursuant to Section 242 of the General Corporation Law proposing this Amendment of the Restated Certificate of Incorporation and declaring the advisability of this Amendment of the Restated Certificate of Incorporation, and authorizing the appropriate officers of the Corporation to solicit the consent of the shareholders therefor, which resolution setting forth the proposed amendment is as follows:

RESOLVED, that the first paragraph of section four of the Restated Certificate of Incorporation of the Corporation, as amended, be and it hereby is, deleted in its entirety and the following paragraph is inserted in lieu thereof:

- "4. *Number of Shares*. The total number of shares of all classes of stock that the Corporation shall have authority to issue is Three Hundred Eighty Million (380,000,000) shares consisting of: Three Hundred Fifty Million (350,000,000) shares of common stock, \$.001 par value per share ("Common Stock"); and Thirty Million (30,000,000) shares of preferred stock, \$.001 par value per share ("Preferred Stock").
- 2. This Certificate of Amendment of the Restated Certificate of Incorporation has been duly adopted by the shareholders of the Corporation in accordance with the provisions of Section 242 of the General Corporation Law.

[Remainder of page intentionally blank]

IN WITNESS WHEREOF, this Corporation has caused this Certificate of Amendment of the Restated Certificate of Incorporation to be signed by its Chief Executive Officer this day of , 2021.

Heidi Hagen Interim Chief Executive Officer

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