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

SCHEDULE 14A

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

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MUSTANG BIO, INC. 377 Plantation Street Worcester, Massachusetts 01605

Dear Stockholder:

You are cordially invited to the Annual Meeting of Stockholders (the "Annual Meeting") of Mustang Bio, Inc. ("Mustang" or the "Company"), to be held virtually at 3:00 p.m. local time, on June 17, 2021. The meeting can be accessed by visiting www.virtualshareholdermeeting.com/MBIO2021, where you will be able to listen to the meeting live, submit questions and vote online. At the meeting, the stockholders will be asked to (i) elect six directors for a term of one year, (ii) ratify the appointment of BDO USA, LLP as our independent registered public accounting firm for the year ending December 31, 2021, (iii) consider a shareholder proposal on an amendment to the Company's articles/bylaws to require majority vote in director elections, (iv) vote on an amendment to the amended and restated certificate of incorporation to increase authorized shares of common stock by 25,000,000 shares from 125,000,000 to 150,000,000, (v) vote on an amendment to the Company's 2016 incentive plan to increase the number of shares issuable by 3,000,000 shares, and (vi) vote on an amendment to the Company's 2019 Employee Stock Purchase Plan to increase the number of shares issuable by 600,000 shares.

In accordance with the rules and regulations of the Securities and Exchange Commission, we are furnishing our proxy statement and annual report to stockholders for the year ended December 31, 2020 on the Internet. You may have already received our "Important Notice Regarding the Availability of Proxy Materials," which was mailed on or about May 4, 2021. That notice described how you can obtain our proxy statement and annual report. You can also receive paper copies of our proxy statement and annual report upon request.

It is important that your stock be represented at the meeting regardless of the number of shares you hold. You are encouraged to specify your voting preferences by marking our proxy card and returning it as directed. If you do attend the meeting virtually and wish to vote at the meeting, you may revoke your proxy at the meeting.

If you have any questions about the proxy statement or the accompanying 2020 Annual Report, please contact Robyn Hunter, our Corporate Secretary at info@mustangbio.com.

We look forward to seeing you at the Annual Meeting.

Sincerely,

/s/ Manuel Litchman, M.D.

Manuel Litchman, M.D.

President and Chief Executive Officer

April 30, 2021 Worcester, Massachusetts



MUSTANG BIO, INC. 377 Plantation Street Worcester, Massachusetts 01605

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

The Annual Meeting of Stockholders of Mustang Bio, Inc. will be held virtually on June 17, 2021, at 3:00 p.m., local time. At the meeting, stockholders will consider and act on the following items:

- 1. Elect six directors for a term of one year;
- Ratify the appointment of BDO USA, LLP as our independent registered public accounting firm for the year ending December 31, 2021;
- Consider a shareholder proposal on an amendment to the Company's articles/bylaws to require majority vote in director elections;
- Amendment of the Amended and Restated Certificate of Incorporation to Increase Authorized Shares of Common Stock by 25,000,000 shares from 125,000,000 to 150,000,000;
- 5. Amendment to the Company's 2016 Incentive Plan to Increase the Number of Shares Issuable by Mustang Bio, Inc. by 3,000,000 shares;
- Amendment to the Company's 2019 Employee Stock Purchase Plan to increase the number of shares issuable by 600,000 shares; and
- Transact any other business that may properly come before the Annual Meeting or any adjournment of the Annual Meeting.

Only those stockholders of record as of the close of business on April 20, 2021, are entitled to vote at the Annual Meeting or any postponements or adjournments thereof. A list of stockholders entitled to vote at the Annual Meeting will be available for examination for any purpose germane to the Annual Meeting for ten days prior to the Annual Meeting. You may email Mustang Bio, Inc. at ir@mustangbio.com to coordinate arrangements to view the stockholder list. A complete list of stockholders entitled to vote at the Annual Meeting will be available for review during the Annual Meeting by following the instructions posted at www.proxyvote.com and entering your 16 digit control number included with the Notice of Internet Availability or proxy card.

YOUR VOTE IS IMPORTANT!

Instructions on how to vote your shares via the Internet are contained on the "Important Notice Regarding the Availability of Proxy Materials," which was mailed on or about May 4, 2021. Instructions on how to obtain a paper copy of our proxy statement and annual report to stockholders for the year ended December 31, 2020, are listed on the "Important Notice Regarding the Availability of Proxy Materials." These materials can also be viewed online by following the instructions listed on the "Important Notice Regarding the Availability of Proxy Materials."

If you choose to receive a paper copy of our proxy statement and annual report, you may vote your shares by completing and returning the proxy card that will be enclosed.

Submitting your proxy does not affect your right to vote virtually if you decide to attend the Annual Meeting. You are urged to submit your proxy as soon as possible, regardless of whether or not you expect to attend the Annual Meeting. You may revoke your proxy at any time before it is voted at the Annual Meeting by (i) delivering written notice to our Corporate Secretary, Robyn Hunter, at our address above, (ii) submitting a later dated proxy card, (iii) voting again via the Internet as described in the "Important Notice Regarding the Availability of Proxy Materials", (iv) attending the Annual Meeting and voting virtually. No revocation under (i) or (ii) will be effective unless written notice or the proxy card is received by our Corporate Secretary at or before the Annual Meeting.

When you submit your proxy, you authorize Manuel Litchman, M.D. and Brian Achenbach to vote your shares at the Annual Meeting and on any adjournments of the Annual Meeting in accordance with your instructions.

By Order of the Board of Directors,

/s/ Robyn Hunter

Robyn Hunter Corporate Secretary

April 30, 2021 Worcester, Massachusetts

MUSTANG BIO, INC. 377 Plantation Street Worcester, Massachusetts 01605

PROXY STATEMENT

This proxy statement is being made available via Internet access, beginning on or about May 4, 2021, to the owners of shares of common stock of Mustang Bio, Inc. (the "Company," "our," "we," or "Mustang") as of April 20, 2021, in connection with the solicitation of proxies by our Board of Directors for our 2021 Annual Meeting of Stockholders (the "Annual Meeting"). On or about May 4, 2021, we sent an "Important Notice Regarding the Availability of Proxy Materials" to our stockholders. If you received this notice by mail, you will not automatically receive by mail our proxy statement and annual report to stockholders for the year ended December 31, 2020. If you would like to receive a printed copy of our proxy statement, annual report and proxy card, please follow the instructions for requesting such materials in the notice. Upon request, we will promptly mail you paper copies of such materials free of charge.

The Annual Meeting will occur virtually on June 17, 2021, at 3:00 p.m., local time. Our Board of Directors encourages you to read this document thoroughly and take this opportunity to vote, via proxy, on the matters to be decided at the Annual Meeting. As discussed below, you may revoke your proxy at any time before your shares are voted at the Annual Meeting.

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QUESTIONS AND ANSWERS

Q: Why did I receive an "Important Notice Regarding the Availability of Proxy Materials"?

A. In accordance with Securities and Exchange Commission ("SEC") rules, instead of mailing a printed copy of our proxy materials, we may send an "Important Notice Regarding the Availability of Proxy Materials" to stockholders. All stockholders will have the ability to access the proxy materials on a website referred to in the notice or to request a printed set of these materials at no charge. You will not receive a printed copy of the proxy materials unless you specifically request one from us. Instead, the notice instructs you as to how you may access and review all of the important information contained in the proxy materials via the Internet and submit your vote via the Internet.

Q: When is the Annual Meeting?

A. The Annual Meeting will be held at 3:00 p.m., Eastern Time, on June 17, 2021.

Q: Where will the Annual Meeting be held?

A. The Annual Meeting will be held virtually.

Q: What is the purpose of the Annual Meeting?

A. At the Annual Meeting, our stockholders will act upon the matters outlined in the Notice of Annual Meeting of Stockholders accompanying this proxy statement, including (i) electing six directors for a term of one year, (ii) ratifying the appointment of BDO USA, LLP as our independent registered public accounting firm for the year ending December 31, 2021, (iii) amend the Company's articles of incorporation and/or bylaws to provide that directors shall be elected by the affirmative vote of the majority of votes cast at an annual meeting of shareowners in uncontested elections, (iv) amendment of the amended and restated certificate of incorporation to increase authorized shares of common stock by 25,000,000 shares from 125,000,000 to 150,000,000, (v) approval of an amendment to the Company's 2016 incentive plan to increase the number of shares issuable by 3,000,000 shares, (vi) vote on an amendment to the Company's 2019 Employee Stock Purchase Plan to increase the number of shares issuable by 600,000 shares, and (vii) transacting any other business that may properly come before the Annual Meeting or any adjournment thereof.

Q. Who is entitled to vote at our Annual Meeting?

- A. Only stockholders of record at the close of business on, April 20, 2021, which we refer to as the Record Date, are entitled to receive notice of the Annual Meeting and to vote the shares that they held on that date at the Annual Meeting, or any adjournment or postponement thereof. As of the close of business on the Record Date, we had 85,702,558 shares of common stock, 845,385 shares of Class A Common Stock, and 250,000 shares of Class A Preferred Stock outstanding. Each share of common stock entitles its holder to one vote at the Annual Meeting. A list of stockholders entitled to vote at the Annual Meeting may be examined at our offices located at 377 Plantation Street, Worcester, Massachusetts 01605, between the hours of 10:00 a.m. and 5:00 p.m., local time, each business day during the 10 days preceding the Annual Meeting, however, if we determine that a physical in-person inspection is not practicable, such list of stockholders may be made available electronically, upon request.
 - Stockholders of Record: Shares Registered in Your Name. If on the Record Date your shares were
 registered directly in your name with our transfer agent, Continental Transfer and Trust Company, then
 you are a stockholder of record. As a stockholder of record, you may vote virtually at the Annual Meeting
 or vote by proxy. Whether or not you plan to attend the Annual Meeting, we urge you to fill out and return
 the enclosed proxy card, to ensure your vote is counted.
 - Beneficial Owner: Shares Registered in the Name of a Broker, Bank, Custodian or Other Nominee. If on
 the Record Date your shares were held in an account at a brokerage firm, bank, custodian or other
 nominee, then you are the beneficial owner of shares held in "street name" and these proxy materials are
 being forwarded to you by that organization. The organization holding your account is considered 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, custodian or other nominee on how to vote the

shares in your account. You are also invited to attend the Annual Meeting. However, because you are not the stockholder of record, you may not vote your shares virtually at the Annual Meeting unless you request and obtain a valid proxy from your broker, bank, custodian or other nominee.

O: How many votes do I have?

A. On each matter to be voted upon, you have one vote for each share of common stock you own as of the Record Date.

O: How do I vote?

A. You may vote during the Annual Meeting by following the instructions posted at www.proxyvote.com and entering your 16-digit control number included with the Notice of Internet Availability or proxy card, by use of a proxy card if you receive a printed copy of our proxy materials, via internet as directed in our "Important Notice Regarding the Availability of Proxy Materials," or by telephone as indicated in the proxy card.

Whether you hold shares directly as the stockholder of record or indirectly as the beneficial owner of shares held for you by a broker or other nominee (i.e., in "street name"), you may direct your vote without attending the Annual Meeting. You may vote by granting a proxy or, for shares you hold in street name, by submitting voting instructions to your broker or nominee. In most instances, you will be able to do this by internet, telephone or by mail. Please refer to the summary instructions below and those included on your proxy card or, for shares you hold in street name, the voting instruction card provided by your broker or nominee.

- By Internet If you have Internet access, you may authorize your proxy from any location in the world
 as directed in our "Important Notice Regarding the Availability of Proxy Materials."
- By Telephone If you are calling from the United States or Canada, you may authorize your proxy by
 following the "By Telephone" instructions on the proxy card or, if applicable, the telephone voting
 instructions that may be described on the voting instruction card sent to you by your broker or nominee.
- By Mail You may authorize your proxy by signing your proxy card and mailing it in the enclosed, postage-prepaid and addressed envelope. For shares you hold in street name, you may sign the voting instruction card included by your broker or nominee and mail it in the envelope provided.

Q: What if I have technical difficulties or trouble accessing the virtual Annual Meeting?

A. We will have technicians ready to assist you with any technical difficulties you may have accessing the virtual Annual Meeting. If you encounter any difficulties accessing the virtual Annual Meeting during the check-in or meeting time, please call the technical support number located on the meeting page. Technical support will be available starting at approximately 2:00 p.m. on June 17, 2021.

Q: What is a proxy?

A. A proxy is a person you appoint to vote your shares on your behalf. If you are unable to attend the Annual Meeting, our Board of Directors is seeking your appointment of a proxy so that your shares may be voted. If you vote by proxy, you will be designating Manuel Litchman, M.D., our President and Chief Executive Officer, and Brian Achenbach, our Senior Vice President of Finance and Corporate Controller, as your proxies. Dr. Litchman and/or Mr. Achenbach may act on your behalf and have the authority to appoint a substitute to act as your proxy.

Q: How will my shares be voted if I vote by proxy?

A. Your proxy will be voted according to the instructions you provide. If you complete and submit your proxy but do not otherwise provide instructions on how to vote your shares, your shares will be voted (i) "FOR" the individuals nominated to serve as members of our Board of Directors, (ii) "FOR" the ratification of BDO USA, LLP as our independent registered public accounting firm for the year ending December 31, 2021, (iii) "AGAINST" the amendment of the Company's articles of incorporation and/or bylaws to provide that directors shall be elected by the affirmative vote of the majority of votes cast at an annual meeting of

shareowners in uncontested elections, (iv) "FOR" amendment of the amended and restated certificate of incorporation to increase authorized shares of common stock by 25,000,000 shares from 125,000,000 to 150,000,000, (v) "FOR" approval of an amendment to the Company's 2016 incentive plan to increase the number of shares issuable by 3,000,000 shares, and (vi) "FOR" the amendment to the Company's 2019 Employee Stock Purchase Plan to increase the number of shares issuable by 600,000 shares. Presently, our Board does not know of any other matter that may come before the Annual Meeting. However, your proxies are authorized to vote on your behalf, using their discretion, on any other business that properly comes before the Annual Meeting.

Q: Can I change my vote after I return my proxy card?

- A. Yes. You may revoke your proxy at any time before the final vote at the Annual Meeting by. If you are the record holder of your shares, you may revoke your proxy in any one of three ways:
 - You may send a written notice that you are revoking your proxy to our Corporate Secretary, Robyn
 Hunter, at our address above (so long as we receive such notice no later than the close of business on the
 day before the Annual Meeting);
 - You may submit a later dated proxy card or voting again via the internet as described in the "Important Notice Regarding the Availability of Proxy Materials"; or
 - You may attend the Annual Meeting and notify the election officials at the Annual Meeting that you wish
 to revoke your proxy and vote virtually. Simply attending the Annual Meeting will not, by itself, revoke
 your proxy.

If your shares are held by your broker, bank, custodian or other nominee, you should follow the instructions provided by such broker, bank, custodian or other nominee.

Q: Is my vote confidential?

A. Yes. All votes remain confidential.

Q: How are votes counted?

A. Before the Annual Meeting, our Board of Directors will appoint one or more inspectors of election for the meeting. The inspector(s) will determine the number of shares represented at the meeting, the existence of a quorum and the validity and effect of proxies. The inspector(s) will also receive, count, and tabulate ballots and votes and determine the results of the voting on each matter that comes before the Annual Meeting.

Abstentions and votes withheld, and shares represented by proxies reflecting abstentions or votes withheld, will be treated as present for purposes of determining the existence of a quorum at the Annual Meeting. They will not be considered as votes "for" or "against" any matter for which the stockholder has indicated their intention to abstain or withhold their vote, except for abstentions under Proposals Two, Three, Four, Five and Six, which will have the same effect as a vote against. Broker or nominee non-votes, which occur when shares held in "street name" by brokers or nominees who indicate that they do not have discretionary authority to vote on a particular matter, will not be considered as votes "for" or "against" that particular matter. Broker and nominee non-votes will be treated as present for purposes of determining the existence of a quorum and may be entitled to vote on certain matters at the Annual Meeting.

Q: What constitutes a quorum at the Annual Meeting?

A. In accordance with Delaware law (the law under which we are incorporated) and our Bylaws, the presence at the Annual Meeting, by proxy or virtually, of the holders of a majority of the outstanding shares of the capital stock entitled to vote at the Annual Meeting constitutes a quorum, thereby permitting the stockholders to conduct business at the Annual Meeting. Abstentions, votes withheld, and broker or nominee non-votes will be included in the calculation of the number of shares considered present at the Annual Meeting for purposes of determining the existence of a quorum.

If a quorum is not present at the Annual Meeting, a majority of the stockholders present virtually and by proxy may adjourn the meeting to another date. If an adjournment is for more than 30 days or a new record

date is fixed for the adjourned meeting by our Board, we will provide notice of the adjourned meeting to each stockholder of record entitled to vote at the adjourned meeting. At any adjourned meeting at which a quorum is present, any business may be transacted that might have been transacted at the originally called meeting.

Q: What vote is required to elect our directors for a one-year term?

- A. The affirmative vote of a plurality of the votes of the shares present, virtually or by proxy, at the Annual Meeting is required for the election of each of the nominees for director. "Plurality" means that the nominees receiving the largest number of votes up to the number of directors to be elected at the Annual Meeting will be duly elected as directors. Abstentions, votes withheld, and broker or nominee non-votes will not affect the outcome of director elections; provided, however, our Class A Common Stock has the right to elect a majority of our directors.
- Q: What vote is required to ratify BDO USA, LLP as our independent registered public accounting firm for the year ending December 31, 2021?
- A. The affirmative vote of a majority of the shares present, virtually or by proxy, and entitled to vote at the Annual Meeting is required to approve the ratification of BDO USA, LLP as our independent registered public accounting firm for the year ending December 31, 2021. Abstentions will have the same effect as a negative vote. However, broker or nominee non-votes, and shares represented by proxies reflecting broker or nominee non-votes, will not have the effect of a vote against this proposal as they are not considered to be present and entitled to vote on this matter.
- Q: What vote is required to approve the shareholder proposal for an amendment to the Company's articles/bylaws to require majority vote in director elections?
- A. The affirmative vote of a majority of the shares entitled to vote is required to approve the amendment of the Company's articles of incorporation and/or bylaws to provide that directors shall be elected by the affirmative vote of the majority of votes cast at an annual meeting of shareowners in uncontested elections. Abstentions will have the same effect as a negative vote.
- Q: What vote is required to approve the amendment of the amended and restated certificate of incorporation to increase authorized shares of common stock?
- A: The affirmative vote of a majority of our common stock outstanding and entitled to vote at the Annual Meeting is required to amend the Company's amended and restated certificate of incorporation. Abstentions, broker or nominee non-votes, and shares represented by proxies reflecting broker or nominee non-votes, will have the same effect as a negative vote.
- Q: What vote is required to approve an amendment to the Company's 2016 incentive plan to increase the number of shares issuable by 3,000,000 shares?
- A: The affirmative vote of the majority of shares present virtually or represented by proxy at the meeting and entitled to vote on the subject matter is required to amend the Company's 2016 incentive plan to increase the number of shares issuable by 3,000,000 shares. Abstentions will have the same effect as a negative vote. However, broker or nominee non-votes, and shares represented by proxies reflecting broker or nominee non-votes, will not have the effect of a vote against this proposal as they are not considered to be present and entitled to vote on this proposal.
- Q: What vote is required to approve an amendment to the Company's 2019 Employee Stock Purchase Plan to increase the number of shares issuable by 600,000 shares?
- A: The affirmative vote of the majority of shares present virtually or represented by proxy at the meeting and entitled to vote on the subject matter is required to amend the Company's 2019 Employee Stock Purchase Plan to increase the number of shares issuable by 600,000 shares. Abstentions will have the same effect as a negative vote. However, broker or nominee non-votes, and shares represented by proxies reflecting broker or nominee non-votes, will not have the effect of a vote against this proposal as they are not considered to be present and entitled to vote on this proposal.

Q: How can I find out the results of the voting at the Annual Meeting?

- A. We will announce preliminary voting results at the Annual Meeting. We will also disclose voting results on a Form 8-K filed with the SEC, within four business days after the Annual Meeting.
- Q: Who was our independent public accountant for the year ending December 31, 2020? Will they be represented at the Annual Meeting?
- A. BDO USA, LLP was the independent registered public accounting firm that audited our financial statements for the year ending December 31, 2020. We expect a representative of BDO USA, LLP to be present at the Annual Meeting. The representative will have an opportunity to make a statement and will be available to answer your questions.

Q: Who is paying for this proxy solicitation?

A. We will pay the entire cost of preparing, assembling, printing, mailing, and distributing these proxy materials and soliciting votes. If you choose to vote over the internet, you are responsible for internet access charges you may incur. If you choose to vote by telephone, you are responsible for telephone charges you may incur. In addition to the mailing of these proxy materials, the solicitation of proxies or votes may be made in person, by telephone or by electronic communication by our directors, officers and employees, who will not receive any additional compensation for such solicitation activities. Proxies also may be solicited by employees and our directors by mail, telephone, facsimile, e-mail or in person.

Q: How can I obtain a copy of our annual report on Form 10-K?

A. We have filed our annual report on Form 10-K for the year ended December 31, 2020, with the SEC. The annual report on Form 10-K is also included in the 2020 Annual Report to Stockholders. You may obtain, free of charge, a copy of our annual report on Form 10-K, including financial statements, by writing to our Corporate Secretary, Robyn Hunter, or by email at info@Mustangbio.com. Upon request, we will also furnish any exhibits to the annual report on Form 10-K as filed with the SEC.

CORPORATE GOVERNANCE

Our Board of Directors

Our Bylaws provide that our Board shall consist of between one and nine directors, and such number of directors within this range may be determined from time to time by resolution of our board of directors or our stockholders. Currently, we have six directors. The following individuals are being nominated to serve on our Board (See "Proposal 1 — Election of Directors; Nominees"):

Name	Age	Position	Director Since
Michael S. Weiss	55	Chairman of the Board of Directors and Executive Chairman	2015
Lindsay A. Rosenwald, M.D.	66	Director	2015
Neil Herskowitz	64	Director	2015
Manuel Litchman, M.D.	67	President and Chief Executive Officer, and Director	2017
Adam J. Chill	53	Director	2017
Michael J. Zelefsky, M.D.	60	Director	2017

The Board does not have a formal policy regarding the separation of the roles of Chief Executive Officer and Chairman of the Board, as the Board believes that it is in the best interests of the Company to make that determination based on the direction of the Company and the current membership of the Board. The Board has determined that having a director who is also the chief executive officer serve as the Chairman is not in the best interest of the Company's stockholders at this time.

Mustang has a risk management program overseen by Manuel Litchman, M.D., our President and Chief Executive Officer. Dr. Litchman and management identify material risks and prioritize them for our Board. Our Board regularly reviews information regarding our credit, liquidity, operations, and compliance as well as the risks associated with each.

The following biographies set forth the names of our directors and director nominees, their ages, the year in which they first became directors, their positions with us, their principal occupations and employers for at least the past five years, any other directorships held by them during the past five years in companies that are subject to the reporting requirements of the Securities Exchange Act of 1934 (the "Exchange Act"), or any company registered as an investment company under the Investment Company Act of 1940, as well as additional information, all of which we believe sets forth each director nominee's qualifications to serve on the Board. There is no family relationship between and among any of our executive officers or directors. On April 7, 2017, we entered into an Executive Employment Agreement with Dr. Litchman, pursuant to which, among other things, the Company agreed to use its best efforts to cause Dr. Litchman to be nominated and reelected to the Board. Except as described herein, there are no arrangements or understandings between any of our executive officers or directors and any other person pursuant to which any of them are elected as an officer or director.

Mustang adheres to the corporate governance standards adopted by The Nasdaq Stock Market ("Nasdaq"). Nasdaq rules require our Board to make an affirmative determination as to the independence of each director. Consistent with these rules, our Board completed its annual review of director independence on April 20, 2021. During the review, our Board considered relationships and transactions during 2020 between each director or any member of his immediate family, on the one hand, and the Company and our subsidiaries and affiliates, on the other hand. The purpose of this review was to determine whether any such relationships or transactions were inconsistent with a determination that the director is independent. Based on this review, our Board determined that Adam Chill, Neil Herskowitz, and Michael Zelefsky are independent under the criteria established by Nasdaq and our Board.

Current Directors/Nominees

Michael S. Weiss — Chairman of the Board of Directors and Executive Chairman

Mr. Weiss has served as Chairman of our Board of Directors since May 2015 and has also served as our Executive Chairman since January 2017. He previously served as our interim President & CEO from

March 2015 to April 2017. He is also the Executive Vice Chairman, Strategic Development of Fortress Biotech, Inc., a position he has held since February 2014, and the Chairman of the Board of Directors of Checkpoint Therapeutics, Inc., where he previously served as interim President & CEO from March 2015 to December 2016. Mr. Weiss was also a board member of Avenue Therapeutics, Inc. from March 2015 to February 2018 and the Chairman of the Board of National Holdings Corporation from September 2016 to June 2018. Since December 2011, Mr. Weiss has served in multiple capacities at TG Therapeutics, Inc., and is currently its Executive Chairman, Chief Executive Officer and President. Mr. Weiss earned his J.D. from Columbia Law School and his B.S. in Finance from The University at Albany. He began his professional career as a lawyer with Cravath, Swaine & Moore LLP. In 1999, Mr. Weiss founded Access Oncology which was later acquired by Keryx Biopharmaceuticals in 2004. Following the merger, Mr. Weiss remained as Chief Executive Officer of Keryx. Based on Mr. Weiss's biotechnology and pharmaceutical industry experience, as well as his extensive management experience, the Board of Directors believes that Mr. Weiss has the appropriate set of skills to serve as a member of the Board in light of the Company's business and structure.

Effective January 1, 2017, the Board of Directors of the Company approved and authorized the execution of a Board Advisory Agreement with Caribe BioAdvisors, LLC (the "Advisor"), which is owned by Michael S. Weiss, to provide the Board with the advisory services of Mr. Weiss as Chairman of the Board of Directors and Executive Chairman. Pursuant to the Advisory Agreement, the Advisor will be paid an annual cash fee of \$60,000, in addition to any and all annual equity incentive grants paid to members of the Board.

Lindsay A. Rosenwald, M.D.

Dr. Rosenwald has served as a member of our Board of Directors since inception. Dr. Rosenwald has been a member of the Board of Directors of Fortress Biotech, Inc. since October 2009 and has served as its Chairman, President and Chief Executive Officer since December 2013. From November 2014 to August 2015, Dr. Rosenwald served as Interim President and CEO of Checkpoint Therapeutics, Inc. and remains on that company's board of directors. He also serves on the board of directors of Avenue Therapeutics, Inc. Prior to that, from 1991 to 2008, he served as the Chairman of Paramount BioCapital, Inc. Over the last 25 years, Dr. Rosenwald has acted as a biotechnology entrepreneur and has been involved in the founding and recapitalization of numerous public and private biotechnology and life sciences companies. Dr. Rosenwald received his B.S. in finance from Pennsylvania State University and his M.D. from Temple University School of Medicine. The Board believes that Dr. Rosenwald's extensive biotechnology, pharmaceutical and finance expertise, as well as his medical background and in-depth understanding of the Company's businesses, make him an exemplary candidate to continue serving on the Company's board.

Neil Herskowitz

Mr. Herskowitz has served as a member of our Board of Directors since August 2015. Mr. Herskowitz has served as the managing member of the ReGen Group of companies, located in New York, since 1998, which include ReGen Capital Investments LLC and Riverside Claims Investments LLC. He has also served as the President of its affiliate, Riverside Claims LLC, since June 2004. Mr. Herskowitz serves as a member of the board of directors for two of our affiliates, Checkpoint Therapeutics, Inc. and Avenue Therapeutics, Inc. Mr. Herskowitz received a B.B.A. in Finance from Bernard M. Baruch College in 1978. Based on Mr. Herskowitz's financial industry experience and in-depth understanding of our business, the Board of Directors believes that Mr. Herskowitz has the appropriate set of skills to serve as a member of the Board.

${\it Manuel Litchman, M.D. -President\ and\ Chief\ Executive\ Officer}$

Dr. Litchman has served as our President and CEO, and as a member of our Board of Directors, since April 2017. Dr. Litchman joined Mustang from Arvinas, LLC, where he served as President and Chief Executive Officer. While at Arvinas, Dr. Litchman oversaw the advancement of the company's pipeline of protein-degradation therapeutics for the treatment of cancers and other diseases toward Investigational New Drug applications, and secured multi-target discovery collaborations with Merck and Genentech. Prior to Arvinas, Dr. Litchman spent more than 18 years with Novartis Pharmaceuticals Corporation, where he held positions of increasing responsibility related to the development of Novartis' oncology pipeline. Most recently, Dr. Litchman served as Senior Vice President and Executive Global Program Head, CTL019, Cell & Gene Therapies Unit, where he led a collaboration with the University of Pennsylvania investigating chimeric

antigen receptor modified T cells (CAR Ts) directed against CD19 on B cell malignancies. Prior to the CTL019 collaboration, Dr. Litchman served as Novartis' Vice President and Head, Oncology Business Development & Licensing. Earlier in his career, Dr. Litchman was a senior equity analyst at Ursus Capital and directed oncology/immunology clinical research at Hoffmann-La Roche Inc. Dr. Litchman received his M.D. from Yale University School of Medicine, and his B.A. from Princeton University. He completed his internal medicine residency and hematology-oncology fellowship at New York-Presbyterian/Weill Cornell Medical Center. Based on Dr. Litchman's biotechnology and pharmaceutical industry experience and in-depth understanding of our business, the Board of Directors believes that Dr. Litchman has the appropriate set of skills to serve as a member of the Board

Adam J. Chill

Mr. Chill has served as a member of our Board of Directors since June 2017. Mr. Chill is the President of and a Portfolio Manager at Kingsbrook Partners LP, an alternative asset management firm he co-founded in March 2009. From February 2001 to March 2009, Mr. Chill was a Portfolio Manager and Managing Director at Highbridge Capital Management, LLC, an alternative asset management firm owned by J.P. Morgan Asset Management. At Highbridge, Mr. Chill was responsible for structuring, negotiating and monitoring Highbridge's portfolio of structured investments in public and private companies worldwide. From April 2000 to February 2001, Mr. Chill worked at Angelo, Gordon & Co., an alternative asset management firm. From October 1992 to April 2000, Mr. Chill was a corporate attorney specializing in securities and mergers and acquisitions at Stroock & Stroock & Lavan LLP. Mr. Chill serves as Vice President and a member of the Executive Committee of the American Friends of Shalva, the Association for Mentally and Physically Challenged Children in Israel. Mr. Chill received his B.A., magna cum laude, from Yeshiva University and his J.D. from Columbia University School of Law, where he was a Harlan Fiske Stone Scholar. Based on Mr. Chill's extensive investment experience and knowledge of the biotechnology industry, the Board of Directors believes that Mr. Chill has the appropriate set of skills to serve as a member of the Board.

Michael J. Zelefsky, M.D.

Dr. Zelefsky has served as a member of our Board of Directors since June 2017. Dr. Zelefsky has served as a Member at Memorial Sloan-Kettering Cancer Center Department of Radiation Oncology since 2005. He has served as Chief of Memorial Sloan-Kettering's Brachytherapy Service since 2000, and has been a Professor of Radiation Oncology at Weill Cornell Medical College, Cornell University since 1994. He is a recognized expert in radiation therapy and has helped develop and enhance Memorial Sloan-Kettering's prostate brachytherapy program during his tenure. Dr. Zelefsky received a Bachelor of Arts in Biology (summa cum laude) from Yeshiva University in 1982 and a Medical Doctor degree from Albert Einstein College of Medicine in 1986. Dr. Zelefsky is currently Editor-in-Chief of *Brachytherapy* and has previously served as president of the American Brachytherapy Society. Based on Dr. Zelefsky's extensive experience and background in oncology, the Board of Directors believes that Dr. Zelefsky has the appropriate set of skills to serve as a member of the Board.

During 2020, our Board held seven meetings. During 2020, each incumbent director who served their full term and are standing for election attended at least 75% of the meetings of the Board of Directors and the meetings of those committees on which each incumbent director served, in each case during the period that such person was a director. The permanent committees established by our Board of Directors are the Audit Committee and the Compensation Committee, descriptions of which are set forth in more detail below. Our directors are expected to attend each Annual Meeting of Stockholders, and it is our expectation that all of the directors standing for election will attend this year's Annual Meeting. Last year, all of our directors attended the 2020 Annual Meeting of Stockholders.

Communicating with the Board of Directors

Our Board has established a process by which stockholders can send communications to the Board. You may communicate with the Board as a group, or to specific directors, by writing to Robyn Hunter, our Corporate Secretary, at our offices located at 377 Plantation Street, Worcester, Massachusetts 01605. The Corporate Secretary will review all such correspondence and regularly forward to our Board a summary of all correspondence and copies of all correspondence that, in the opinion of the Corporate Secretary, deals with

the functions of the Board that he otherwise determines requires their attention. Directors may at any time review a log of all correspondence we receive that is addressed to members of our Board and request copies of any such correspondence. Concerns relating to accounting, internal controls, or auditing matters may be communicated in this manner, or may be submitted on an anonymous basis via e-mail at info@mustangbio.com. These concerns will be immediately brought to the attention of our Audit Committee and handled in accordance with procedures established by our Audit Committee.

Audit Committee

The Audit Committee currently consists of Adam J. Chill, Neil Herskowitz, and Michael J. Zelefsky, M.D. Mr. Chill chairs the Audit Committee.

The Audit Committee held five meetings during the fiscal year ended December 31, 2020. The duties and responsibilities of the Audit Committee are set forth in the Charter of the Audit Committee which was recently reviewed by our Audit Committee. A copy of the Charter of the Audit Committee is available on our website, located at ir.mustangbio.com. Among other things, the duties and responsibilities of the Audit Committee include reviewing and monitoring our financial statements and internal accounting procedures, the selection of our independent registered public accounting firm and consulting with, reviewing the services provided by our independent registered public accounting firm and identifying and assessing any related party transactions in collaboration with counsel, accountants and management. Our Audit Committee has sole discretion over the retention, compensation, evaluation and oversight of our independent registered public accounting firm.

The SEC and Nasdaq have established rules and regulations regarding the composition of audit committees and the qualifications of audit committee members. Our Board of Directors has examined the composition of our Audit Committee and the qualifications of our Audit Committee members in light of the current rules and regulations governing audit committees. Based upon this examination, our Board of Directors has determined that each member of our Audit Committee is independent and is otherwise qualified to be a member of our Audit Committee in accordance with the rules of the SEC and Nasdaq.

Additionally, the SEC requires that at least one member of the Audit Committee have a "heightened" level of financial and accounting sophistication. Such a person is known as the "audit committee financial expert" under the SEC's rules. Our Board of Directors has determined that Mr. Chill is an "audit committee financial expert," as the SEC defines that term, and is an independent member of our Board of Directors and our Audit Committee. Please see Mr. Chill's biography under "Corporate Governance — Our Board of Directors" beginning on page 6 for a description of his relevant experience.

The report of the Audit Committee can be found on page 14 of this proxy statement.

Compensation Committee

The Compensation Committee currently consists of Adam J. Chill, Neil Herskowitz and Michael J. Zelefsky, M.D. Mr. Herskowitz chairs the Compensation Committee.

The Compensation Committee held one meeting during the fiscal year ended December 31, 2020. The duties and responsibilities of the Compensation Committee are set forth in the Charter of the Compensation Committee which was recently reviewed by our Compensation Committee. A copy of the Charter of the Compensation Committee is available on our website, located at ir.mustangbio.com. As discussed in its Charter, among other things, the duties and responsibilities of the Compensation Committee include approving any corporate goals and objectives relating to the compensation of our executive officers, evaluating the performance of our executive officers, and administering all of our executive compensation programs, including, but not limited to, our incentive and equity-based plans. The Compensation Committee evaluates the performance of all of our executive officers on an annual basis and reviews and approves on an annual basis all compensation programs and awards relating to such officers. The Compensation Committee applies discretion in the determination of individual executive compensation packages to ensure compliance with the Company's compensation philosophy. Our Chief Executive Officer makes recommendations to the Compensation Committee with respect to the compensation packages for officers other than himself.

Nasdaq has established rules and regulations regarding the composition of compensation committees and the qualifications of compensation committee members. Our Board of Directors has examined the composition

of our Compensation Committee and the qualifications of our Compensation Committee members in light of the current rules and regulations governing compensation committees. Based upon this examination, our Board of Directors has determined that each member of our Compensation Committee is independent and is otherwise qualified to be a member of our Compensation Committee in accordance with such rules.

Nominating Process

We do not currently have a nominating committee or any other committee serving a similar function. Although we do not have a written charter in place to select director nominees, our Board of Directors has adopted resolutions regarding the director nomination process. We believe that the current process in place functions effectively to select director nominees who will be valuable members of our Board of Directors.

We identify potential nominees to serve as directors through a variety of business contacts, including current executive officers, directors, community leaders and stockholders. We may, to the extent deemed appropriate by the Board of Directors, retain a professional search firm and other advisors to identify potential nominees.

We will also consider candidates recommended by stockholders for nomination to our Board. A stockholder who wishes to recommend a candidate for nomination to our Board must submit such recommendation to our Corporate Secretary, Robyn Hunter, at our offices located at 377 Plantation Street, Worcester, Massachusetts 01605. Any recommendation must be received not less than 50 calendar days nor more than 90 calendar days before the anniversary date of the previous year's annual meeting. All stockholder recommendations of candidates for nomination for election to our Board must be in writing and must set forth the following: (i) the candidate's name, age, business address, and other contact information, (ii) the number of shares of common stock beneficially owned by the candidate, (iii) a complete description of the candidate's qualifications, experience, background and affiliations, as would be required to be disclosed in the proxy statement pursuant to Schedule 14A under the Exchange Act, (iv) a sworn or certified statement by the candidate in which he or she consents to being named in the proxy statement as a nominee and to serve as director if elected, and (v) the name and address of the stockholder(s) of record making such a recommendation.

We believe that our Board as a whole should encompass a range of talent, skill, and expertise enabling it to provide sound guidance with respect to our operations and interests. Our independent directors evaluate all candidates to our Board by reviewing their biographical information and qualifications. If the directors determine that a candidate is qualified to serve on our Board, such candidate is interviewed by at least one of the directors and our Chief Executive Officer. Other members of the Board also have an opportunity to interview qualified candidates. The directors then determine, based on the background information and the information obtained in the interviews, whether to recommend to the Board that the candidate be nominated for approval by the stockholders to fill a directorship. With respect to an incumbent director whom the directors are considering as a potential nominee for re-election, the directors review and consider the incumbent director's service during his or her term, including the number of meetings attended, level of participation, and overall contribution to the Board. The manner in which the directors evaluate a potential nominee will not differ based on whether the candidate is recommended by our directors or stockholders.

We consider the following qualifications, among others, when making a determination as to whether a person should be nominated to our Board: the independence of the director nominee; the nominee's character and integrity; financial literacy; level of education and business experience, including experience relating to biopharmaceutical companies; whether the nominee has sufficient time to devote to our Board; and the nominee's commitment to represent the long-term interests of our stockholders. We review candidates in the context of the current composition of the Board and the evolving needs of our business. We believe that each of the current members of our Board (who are also our director nominees) has the requisite business, biopharmaceutical, financial or managerial experience to serve as a member of the Board, as described above in their biographies under the heading "Our Board of Directors." We also believe that each of the current members of our Board has other key attributes that are important to an effective board, including integrity, high ethical standards, sound judgment, analytical skills, and the commitment to devote significant time and energy to service on the Board and its committees.

We do not have a formal policy in place with regard to diversity in considering candidates for our Board, but the Board strives to nominate candidates with a variety of complementary skills so that, as a group, the Board will possess the appropriate talent, skills and expertise to oversee our business.

Code of Business Conduct and Ethics

We have adopted a Code of Ethics, or the Code, which applies to all of our directors and employees, including our principal executive officer and principal financial officer. The Code includes guidelines dealing with the ethical handling of conflicts of interest, compliance with federal and state laws, financial reporting, and our proprietary information. The Code also contains procedures for dealing with and reporting violations of the Code. We have posted our Code of Ethics on our website, located at www.mustangbio.com.

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FEES AND OTHER MATTERS

BDO USA, LLP, the independent registered public accounting firm that audited our financial statements for the year ended December 31, 2020, has served as our independent registered public accounting firm since October 2016. We expect a representative of BDO USA, LLP to be present at the Annual Meeting. The representative will have an opportunity to make a statement and will be available to answer your questions.

Our Board has asked the stockholders to ratify the selection of BDO USA, LLP as our independent registered public accounting firm. See "Proposal Two: Ratification of Appointment of BDO USA, LLP as Our Independent Registered Public Accounting Firm" on page 25 of this proxy statement. The Board has reviewed the fees described below and concluded that the payment of such fees is compatible with maintaining BDO USA, LLP's independence. All proposed engagements of BDO USA, LLP, whether for audit services, audit-related services, tax services, or permissible non-audit services, were pre-approved by our Board.

Audit Fees

For the fiscal years ended December 31, 2020 and 2019, BDO USA, LLP billed us an aggregate of approximately \$381,500 and \$261,526, respectively, in fees for the professional services rendered in connection with the audits of our annual financial statements included in our Annual Reports on Form 10-K for those two fiscal years, the review of our financial statements included in our Quarterly Reports on Form 10-Q during those two fiscal years, and other services provided in connection with registration statements.

Audit-Related Fees

During the fiscal years ended December 31, 2020 and 2019, we were not billed by BDO USA, LLP for any fees for audit-related services reasonably related to the performance of the audits and reviews for those two fiscal years, in addition to the fees described above under the heading "Audit Fees."

Tax Fees

During the fiscal years ended December 31, 2020 and 2019, we were not billed by BDO USA, LLP for any fees for professional services rendered for tax compliance, tax advice, and tax planning services.

All Other Fees

During the fiscal years ended December 31, 2020 and 2019, we were not billed by BDO USA, LLP for any fees for services, other than those described above, rendered to us for those two fiscal years.

Pre-Approval of Services

Our Audit Committee has established a policy setting forth the procedures under which services provided by our independent registered public accounting firm will be pre-approved by our Audit Committee. The potential services that might be provided by our independent registered public accounting firm fall into two categories:

- Services that are permitted, including the audit of our annual financial statements, the review of our
 quarterly financial statements, related attestations, benefit plan audits and similar audit reports, financial
 and other due diligence on acquisitions, and federal, state, and non-US tax services; and
- Services that may be permitted, subject to individual pre-approval, including compliance and internalcontrol reviews, indirect tax services such as transfer pricing and customs and duties, and forensic auditing.

Services that our independent registered public accounting firm may not legally provide include such services as bookkeeping, certain human resources services, internal audit outsourcing, and investment or investment banking advice.

All proposed engagements of our independent registered public accounting firm, whether for audit services or permissible non-audit services, are pre-approved by our Audit Committee. We jointly prepare a schedule with our independent registered public accounting firm that outlines services which we reasonably expect we will need from our independent registered public accounting firm and categorize them according to the classifications described above. Each service identified is reviewed and approved or rejected by our Audit Committee.

REPORT OF THE AUDIT COMMITTEE

In monitoring the preparation of our financial statements, the Audit Committee met with both management and BDO USA, LLP, our independent registered public accounting firm for the year ended December 31, 2020, to review and discuss all financial statements prior to their issuance and to discuss any and all significant accounting issues. Management and our independent registered public accounting firm advised the Audit Committee that each of the financial statements were prepared in accordance with generally accepted accounting principles. The Audit Committee has discussed with BDO USA, LLP 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 discussed the independence of BDO USA, LLP and has received from BDO USA, LLP the letter and written disclosures required by the applicable requirements of the PCAOB regarding its communications with the Audit Committee concerning independence.

Finally, the Audit Committee continues to monitor the scope and adequacy of our internal controls and other procedures, including any and all proposals for adequate staffing and for strengthening internal procedures and controls where appropriate and necessary. These measures include, without limitation, a quarterly review of related party transactions and relationships pursuant to regularly updated reports prepared by Fortress' internal legal counsel and our principal financial officer.

On the basis of these reviews and discussions, the Audit Committee approved the inclusion of our audited financial statements in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020, for filing with the SEC

By the Audit Committee

Adam J. Chill Neil Herskowitz Michael J. Zelefsky

April 30, 2021 Worcester, Massachusetts

OUR EXECUTIVE OFFICERS

Executive Officers

Our current executive officers are as follows:

Name	Age	Position
Manuel Litchman, M.D.	67	President and Chief Executive Officer
Brian Achenbach	56	Senior Vice President of Finance and Corporate Controller

No executive officer is related by blood, marriage or adoption to any other director or executive officer.

Dr. Litchman's biography is presented under "Corporate Governance" on page 7 of this proxy statement.

Brian Achenbach — Senior Vice President of Finance and Corporate Controller

Mr. Achenbach has served as Senior Vice President of Finance & Corporate Controller since March 2019 and joined Mustang in October 2017 as Vice President of Finance & Corporate Controller. Prior to Mustang, Mr. Achenbach served as Vice President & Corporate Controller at Amerigen Pharmaceuticals Limited, where he oversaw finance and accounting functions as the company established itself as a commercial organization in the U.S. and China. Prior to Amerigen, Mr. Achenbach served as Vice President of Finance for the Americas and Vice President of Global Financial Planning & Analysis at ConvaTec Group PLC, a global medical products and technologies company, where he led finance and accounting operations in the U.S., Canada and South America. Earlier in his career, Mr. Achenbach held roles of increasing responsibility in finance and accounting at Mylan N.V., Andrx Corporation (acquired by Watson Pharmaceuticals Inc. in 2006) and IVAX Corporation (acquired by Teva Pharmaceutical Industries Ltd. in 2005). Mr. Achenbach holds an M.B.A. in finance from Roosevelt University in Chicago, and a B.A. in economics from the University of Florida in Gainesville.

EXECUTIVE COMPENSATION

As an emerging growth company, we are eligible to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies. These include, but are not limited to, reduced disclosure obligations regarding executive compensation in our proxy statements, including the requirement to include a Compensation Discussion and Analysis, as well as an exemption from the requirement to hold a non-binding advisory vote on executive compensation. We have elected to comply with the scaled disclosure requirements applicable to emerging growth companies. As an emerging growth company, we are permitted to limit reporting of compensation disclosure to our principal executive officer and our two other most highly compensated executive officers, which we refer to as our "named executive officers" or our "NEOs."

Summary Compensation Table

The following table sets forth information concerning compensation paid by us to our NEOs for their services rendered to us in all capacities during the years ended December 31, 2019 and 2020.

Dr. Litchman and Mr. Achenbach commenced employment in 2017.

Name and Principal Position	Year	Salary (\$)	Bonus (\$) ⁽¹⁾	Stock Awards (\$) ⁽²⁾	Option Awards ⁽²⁾ (\$)	Non-Equity Incentive Plan Compensation (\$)	All Other Compensation (\$) ⁽³⁾	Total (\$)
Manuel Litchman, M.D.	2020	\$430,000	176,044	560,285	_	_	\$ 827	\$1,167,156
President and Chief Executive Officer	2019	\$415,222	100,782	_	_	_	\$ 820	\$ 516,824
Brian Achenbach	2020	\$269,000	77,350	164,700	_	_	_	\$ 511,050
Senior Vice President of Finance and Corporate Controller	2019	\$256,862	69,463	98,350	_	_	_	\$ 424,675

Payment of fifty percent of Dr. Litchman's 2018 discretionary bonus was deferred until achievement of certain milestones.

⁽²⁾ The amounts in the "Stock Awards" and "Option Awards" columns reflect the aggregate grant date fair value of restricted stock units and stock options granted during the year computed in accordance with the provisions of FASB ASC Topic 718. The assumptions used in calculating these amounts are incorporated by reference to Note 9 to the financial statements in our annual report on Form 10-K filed with the SEC on March 24, 2021.

⁽³⁾ All other compensation for 2019 for Dr. Litchman includes long term disability insurance premiums of \$820 for 2019 and \$827 for 2020.

Narrative to Summary Compensation Table

Employment Agreements

Dr. Litchman

In April 2017, we entered into an employment agreement with Dr. Litchman, our Chief Executive Officer, pursuant to which he received an initial annual base salary of \$395,000. As part of his annual review in December 2019, the Board of Directors increased Dr. Litchman's annual base salary to \$430,000 effective as of January 1, 2020. The employment agreement further provides eligibility for an incentive bonus linked to the realization of certain corporate milestones to be established annually by the Board of Directors or the Compensation Committee. Dr. Litchman's target annual bonus is equal to fifty percent (50%) of his annual salary, and the Board of Directors or the Compensation Committee will determine the actual payout amount each year. Dr. Litchman's annual bonus for 2019 is described under "Annual Incentive Bonus" below. The employment agreement provides that if we terminate Dr. Litchman without cause or if he resigns for good reason, as those terms are defined in the employment agreement, he will be entitled to: (i) severance payments at a rate equal to his base salary then in effect for a period of 12 months following his termination date; (ii) a pro-rata share of the annual incentive bonus for the year in which the termination occurred, to be paid when and if such bonus would have been paid under the employment agreement; (iii) accelerated partial vesting of all unvested time-based equity awards with respect to the same number of shares that would have vested if Dr. Litchman had continued in employment for one year following the termination date; and (iv) if Dr. Litchman timely elects continued health insurance coverage under COBRA, the entire premium necessary to continue such coverage for Dr. Litchman and Dr. Litchman's eligible dependents until the conclusion of the time when Dr. Litchman is receiving continuation of base salary payments or until Dr. Litchman becomes eligible for group health insurance coverage under another employer's plan, whichever occurs first, provided however that we have the right to terminate such payment of COBRA premiums on behalf of Dr. Litchman and instead pay him a lump sum amount equal to the COBRA premium times the number of months remaining in the specified period if we determine in our discretion that continued payment of COBRA premiums is or may be discriminatory under Section 105(h) of the Internal Revenue Code. In addition, if Dr. Litchman is terminated without cause or resigns for good reason within twelve months following a change in control, 100% of the shares subject to options and other equity awards granted to him will fully vest. In the event Dr. Litchman's employment is terminated due to his death or disability, he or his estate will receive continuing salary payments for six months and a pro-rate share of the annual incentive bonus for the year in which the termination occurred, to be paid when and if such bonus would have been paid under the employment agreement. In each case, the severance benefits are conditioned upon Dr. Litchman's execution and non-revocation of a release of claims against the Company.

 $Employment\ Arrangement\ with\ Mr.\ Achenbach$

 $Mr.\ A chenbach\ does\ not\ have\ an\ employment\ agreement.\ Mr.\ A chenbach's\ base\ salary\ for\ 2020\ was\ \$269{,}000.$

Annual Incentive Bonus

In 2020, Dr. Litchman was eligible to earn a target annual cash incentive equal to 50% of his base salary per the terms of his Employment Agreement and Mr. Achenbach was eligible to earn a target annual bonus equal to 35% of his base salary in 2020.

Dr. Litchman's annual cash incentive and Mr. Achenbach's bonus were based upon the Company's performance against pre-established corporate goals and objectives, which included a combination of clinical and nonclinical goals related to our products (weighted at an aggregate of 90% of the target awards) as well as other corporate development goals (weighted at 10% of the target awards), and each executive's individual performance based upon subjective performance reviews. Also, reach goals were identified and provided additional opportunities of obtaining an annual incentive award. The goals were achieved at an aggregate level of 85% reflecting the successful achievement of clinical, nonclinical, and corporate development goals as well as some of our reach goals. Accordingly, the executives were awarded 85% of their target bonus amounts. The actual amounts paid to the executives pursuant to their annual cash incentive awards and bonuses are reported in the "Summary Compensation Table" as bonus compensation.

Equity Awards

The Compensation Committee has granted each of Dr. Litchman and Mr. Achenbach equity awards under our Mustang Bio, Inc. 2016 Incentive Plan (the "2016 Plan"). In 2017, Dr. Litchman received an option to purchase 1,041,675 shares and in 2020 he received awards of 183,000 restricted share units, which vest as described in footnotes (2) and (3), respectively, to the Outstanding Equity Awards table below. Mr. Achenbach received awards of 55,000 restricted share units in 2018, 35,000 restricted share units in 2019 and 58,750 restricted share units in 2020, which vest as described in footnote (3) to the Outstanding Equity Awards table below.

Outstanding Equity Awards at Fiscal Year-End 2020

		Option Aw	ards		Stock	Awards
Name	Number of securities underlying unexercised options (#) exercisable	Number of securities underlying unexercised options (#) unexercisable	Option exercise price (\$)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested ⁽¹⁾ (\$)
Manuel Litchman M.D.	455 732 ⁽²⁾	585 943 ⁽²⁾		4/24/2027	137 250 ⁽³⁾	\$ 519,491
	155,752	505,745	ψ 3.73	1/2 1/2021		. ,
Manuel Litchman M.D. Brian Achenbach	455,732 ⁽²⁾	585,943 ⁽²⁾	\$ 5.73	4/24/2027	137,250 ⁽³⁾ 86,249 ⁽⁴⁾	\$ 519 \$ 326

- Market value is based on \$3.785 per share, the closing price of our common stock on the Nasdaq Global Market on December 31, 2020, the last trading day of the fiscal year.
- (2) The option vests as follows: (i) one half of the option will vest over time, with 25% of such shares vesting after twelve months of employment, and the remaining shares vesting in twelve equal quarterly installments thereafter, subject to Dr. Litchman's "continuous service" (as defined in the 2016 Plan) to the Company on each vesting date; (ii) the remaining one half of the option will vest and become exercisable upon the occurrence of the following milestones being achieved, in each case subject to Dr. Litchman's continuous service to the Company on the date of such occurrences: (A) 25% of such shares will vest upon the dosing of the first patient in the first Phase 2 clinical trial of any Company product candidate; (B) 25% of such shares will vest upon the dosing of the first patient in the first Phase 2 clinical trial of a second Company product candidate; (C) 25% of such shares will vest upon the Company's achievement of a fully-diluted market capitalization of \$500,000,000; and (D) 25% of such shares will vest upon the Company's achievement of a fully-diluted market capitalization of \$1 billion.
- (3) The restricted share units vest as follows: (i) 45,750 shares will vest on April 24, 2021; (ii) 45,750 shares will vest on April 24, 2022; (iii) 30,500 shares will vest on April 24, 2023; and (iv) 15,250 shares will vest on April 24, 2024.
- (4) The restricted share units vest as follows: (i) 8,750 shares will vest on March 27, 2021; (ii) 14,688 shares will vest on October 10, 2021; (iii) 13,750 shares will vest on December 5, 2021; (iv) 8,750 shares will vest on March 27, 2022; (v) 14,688 shares will vest on October 10, 2022; (vi) 8,750 shares will vest on March 27, 2023; (vii) 11,248 shares will vest on October 10, 2023; and (viii) 5,625 shares will vest on October 10, 2024.

DIRECTOR COMPENSATION

Director Compensation Program

In January 2016, our directors adopted a Non-Employee Directors Compensation Plan for our non-employee directors pursuant to our 2016 Incentive Plan. Our non-employee directors will receive the following compensation:

Cash Compensation:

- \$50,000 annual retainer; and
- \$10,000 additional annual retainer for the Audit Committee Chair.

Equity Compensation:

- Initial Equity Grant: 50,000 shares of restricted stock, which shares shall vest and become non-forfeitable
 in equal annual installments over three years, beginning on the third (3rd) anniversary of the grant date,
 subject to the director's continued service on the board of directors on such date.
- Re-Election Equity Grant: The greater of (i) a number of shares of restricted stock having a fair market value on the grant date of \$50,000, or (ii) 10,000 shares of restricted stock, which shares shall vest and become non-forfeitable on the third (3rd) anniversary of the grant date, subject to the director's continued service on the board of directors on such date.

In addition, each non-employee director receives reimbursement for reasonable travel expenses incurred in attending meetings of our board of directors and meetings of committees of our board of directors.

Director Compensation Table

The following table sets forth the cash and other compensation we paid to the non-employee members of our Board of Directors for all services in all capacities during 2020.

Name	Fees Earned or Paid in Cash (\$) ⁽¹⁾	Stock Awards (\$)	Total (\$)
Neil Herskowitz	\$ 50,000	\$50,000	\$100,000
Lindsay A. Rosenwald, M.D.	\$ 50,000	\$50,000	\$100,000
Michael S. Weiss ⁽²⁾	\$ 60,000	\$50,000	\$110,000
Manuel Litchman, M.D.	_	_	_
Adam J. Chill	\$ 60,000	\$50,000	\$110,000
Michael J. Zelefsky, M.D.	\$ 50,000	\$50,000	\$100,000

⁽¹⁾ Represents cash retainer for serving on our Board and committees of the Board.

⁽²⁾ Pursuant to the Advisory Agreement, the Advisor is paid an annual cash fee of \$60,000, for the services of Mr. Weiss as Chairman of the Board and Executive Chairman in addition to any and all annual equity incentive grants paid to members of the Board.

DELINQUENT SECTION 16(a) REPORTS

Section 16(a) of the Exchange Act requires our directors, executive officers and persons who own more than 10% of the shares of our common stock to file an initial report of ownership on Form 3 and changes in ownership on Form 4 or Form 5 with the SEC. Such officers, directors and 10% stockholders are also required by SEC rules to furnish us with copies of any Forms 3, 4 or 5 that they file. The SEC rules require us to disclose late filings of initial reports of stock ownership and changes in stock ownership by our directors, executive officers and 10% stockholders. Based solely on a review of copies of the Forms 3, 4 and 5 furnished to us by reporting persons and any written representations furnished by certain reporting persons, we believe that during the fiscal year ended December 31, 2020, all Section 16(a) filing requirements applicable to our directors, executive officers and 10% stockholders were completed in a timely manner, except for two Form 4 filings relating to two transactions by Mr. Chill, two Form 4 filings relating to two transactions by Mr. Herskowitz, two Form 4 filings relating to three transactions by Mr. Weiss, one Form 4 filing relating to one transaction and one Form 3 filing by Dr. Zelefsky, five Form 4 filings relating to five transactions by Dr. Rosenwald, four Form 4 filings relating to ten transactions by Mr. Achenbach and four Form 4 filings relating to eight transactions by Dr. Litchman.

RELATED-PERSON TRANSACTIONS

Since January 1, 2020, the Company has not been a party to any transaction in which the amount involved exceeded or will exceed \$120,000, and in which any of its directors, named executive officers or beneficial owners of more than 5% of the Company's capital stock, or an affiliate or immediate family member thereof, had or will have a direct or indirect material interest, and other than compensation, termination, and change-in-control arrangements

The written charter of the Audit Committee authorizes, and the Nasdaq Stock Market listing rules require, the Audit Committee to review and approve related-party transactions. In reviewing related-party transactions, the Audit Committee applies the basic standard that transactions with affiliates should be made on terms no less favorable to the Company than could have been obtained from unaffiliated parties. Therefore, the Audit Committee reviews the benefits of the transactions, terms of the transactions and the terms available from unrelated third parties, as applicable. All transactions other than compensatory arrangements between the Company and its officers, directors, principal stockholders and their affiliates will be approved by the Audit Committee or a majority of the disinterested directors and will continue to be on terms no less favorable to the Company than could be obtained from unaffiliated third parties.

The following is a summary of each transaction or series of similar transactions since the inception of Mustang to which it was or is a party and that:

- the amount involved exceeded or exceeds \$120,000 or is greater than 1% of our total assets; and
- any of our directors or executive officers, any holder of 5% of our capital stock or any member of their immediate family had or will have a direct or indirect material interest.

Founders Agreement and Management Services Agreement with Fortress

Effective March 13, 2015, the Company entered a Founders Agreement with Fortress Biotech, Inc. ("Fortress"), which was amended and restated on May 17, 2016 and again on July 26, 2016 (the "Mustang Founders Agreement"). The Mustang Founders Agreement provides that, in exchange for the time and capital expended in the formation of Mustang and the identification of specific assets the acquisition of which result in the formation of a viable emerging growth life science company, Fortress loaned \$2.0 million, representing the up-front fee required to acquire the Company's license agreement with City of Hope. The Mustang Founders Agreement has a term of 15 years, which upon expiration automatically renews for successive one-year periods unless terminated by Fortress and the Company or a Change in Control (as defined in the Mustang Founders Agreement) occurs. Concurrently with the second amendment on July 26, 2016, to the Mustang Founders Agreement, Fortress entered into an Exchange Agreement whereby Fortress exchanged its 7.25 million Class B Common shares for 7.0 million common shares and 250,000 Class A Preferred shares. Class A Preferred Stock is identical to common stock other than as to voting rights, conversion rights and the PIK Dividend right (as described below).

Each share of Class A Preferred Stock will be entitled to vote the number of votes that is equal to one and one-tenth (1.1) times a fraction, the numerator of which is the sum of (A) the shares of outstanding Mustang common stock and (B) the whole shares of Mustang common stock into which the shares of outstanding Class A Common Stock and Class A Preferred Stock are convertible and the denominator of which is the number of shares of outstanding Class A Preferred Stock. Thus, the Class A Preferred Stock will at all times constitute a voting majority. Each share of Class A Preferred Stock is convertible, at Fortress' option, into one fully paid and nonassessable share of Mustang common stock, subject to certain adjustments. As holders of Class A Preferred Stock, Fortress will receive on each January 1 (each a "PIK Dividend Payment Date") until the date all outstanding Class A Preferred Stock is converted into common stock or redeemed (and the purchase price is paid in full), pro rata per share dividends paid in additional fully paid and nonassessable shares of common stock ("PIK Dividends") such that the aggregate number of shares of common stock issued pursuant to such PIK Dividend is equal to 2.5% of Mustang's fully-diluted outstanding capitalization on the date that is one (1) business day prior to any PIK Dividend Payment Date.

As additional consideration under the Mustang Founders Agreement, Mustang will also: (i) pay an equity fee in shares of common stock, payable within five business days of the closing of any equity or debt financing for Mustang or any of its respective subsidiaries that occurs after the effective date of the Mustang Founders Agreement and ending on the date when Fortress no longer has majority voting control in the Company's voting equity, equal to 2.5% of the gross amount of any such equity or debt financing; and (ii) pay a cash fee equal to 4.5% of the Company's annual net sales, payable on an annual basis, within 90 days of the end of each calendar year. In the event of a Change in Control, the Company will pay a one-time change in control fee equal to five times the product of (A) net sales for the twelve months immediately preceding the change in control and (B) 4.5%.

Effective as of March 13, 2015, the Company entered into a Management Services Agreement (the "MSA") with Fortress. Pursuant to the terms of the MSA, for a period of five years, Fortress will render advisory and consulting services to the Company. Services provided under the MSA may include, without limitation, (i) advice and assistance concerning any and all aspects of the Company's operations, clinical trials, financial planning and strategic transactions and financings and (ii) conducting relations on behalf of the Company with accountants, attorneys, financial advisors and other professionals (collectively, the "Services"). The Company is obligated to utilize clinical research services, medical education, communication and marketing services and investor relations/public relation services of companies or individuals designated by Fortress, provided those services are offered at market prices. However, the Company is not obligated to take or act upon any advice rendered from Fortress and Fortress shall not be liable for any of its actions or inactions based upon their advice. Fortress and its affiliates, including all members of the Company's Board of Directors, have been contractually exempt from fiduciary duties to the Company relating to corporate opportunities. In consideration for the Services, the Company will pay Fortress an annual consulting fee of \$0.5 million (the "Annual Consulting Fee"), payable in advance in equal quarterly installments on the first business day of each calendar quarter in each year, provided, however, that such Annual Consulting Fee shall be increased to \$1.0 million for each calendar year in which the Company has net assets in excess of \$100 million at the beginning of the calendar year. For the years ended December 31, 2020 and December 31, 2019, the Company recorded \$0.5 million and \$0.5 million, respectively, as expense related to this agreement.

Michael S. Weiss, our Chairman of the Board of Directors, is currently Executive Vice Chairman of Fortress. The MSA and Founders Agreements were negotiated with Fortress.

As of December 30, 2016, the Board of Directors of the Company, approved and authorized the execution of an advisory agreement effective as of January 1, 2017 (the "Advisory Agreement") with Caribe BioAdvisors, LLC (the "Advisor"), owned by Michael S. Weiss, the Chairman of the Board, to provide the board advisory services of Mr. Weiss as Executive Chairman. Pursuant to the Advisory Agreement, the Advisor will be paid an annual cash fee of \$60,000, in addition to any and all annual equity incentive grants paid to members of the Board.

STOCK OWNERSHIP OF OUR DIRECTORS, EXECUTIVE OFFICERS, AND 5% BENEFICIAL OWNERS

The following table shows information, as of March 31, 2021, concerning the beneficial ownership of our common stock by:

- each person we know to be the beneficial owner of more than 5% of our common stock;
- · each of our current directors;
- · each of our NEOs shown in our Summary Compensation Table; and
- all current directors and NEOs as a group.

As of March 31, 2021, there were 85,104,152 shares of our common stock, 845,385 shares of our Class A Common Stock, and 250,000 shares of our Class A Preferred Stock outstanding. In order to calculate a stockholder's percentage of beneficial ownership, we include in the calculation those shares underlying options or warrants beneficially owned by that stockholder that are vested or that will vest within 60 days of March 31, 2021. Shares of restricted stock are deemed to be outstanding. Options or warrants held by other stockholders that are not attributed to the named beneficial owner are disregarded in this calculation. Beneficial ownership is determined in accordance with the rules of the SEC and includes voting or investment power with respect to the shares of our common stock. Unless we have indicated otherwise, each person named in the table below has sole voting power and investment power for the shares listed opposite such person's name, except to the extent authority is shared by spouses under community property laws.

	Commo Benefi Ow	cially
Name and Address of Beneficial Owner ⁽¹⁾	Number of Shares and Nature of Beneficial Ownership	Percentage of Total Common Stock
Michael S. Weiss	550,423 ⁽²⁾	*
Manuel Litchman, M.D.	1,242,372	1.4%
Brian Achenbach	53,554	*
Lindsay A. Rosenwald, M.D.	703,479 ⁽²⁾	*
Neil Herskowitz	101,423	*
Adam J. Chill	93,423	*
Michael J. Zelefsky, M.D.	90,423	*
All executive officers and directors as a group	1,835,097 ⁽³⁾	2.1%
5% or Greater Stockholders:		
Fortress Biotech, Inc.	16,082,895 ⁽⁴⁾	18.7% ⁽⁴⁾

^{*} Less than 1%

- (1) The address of each of the directors, officers and owners of 5% or more of our common stock listed is c/o Mustang Bio, Inc., 377 Plantation Street, Worcester, Massachusetts 01605.
- (2) Includes 500,000 warrants issued by Fortress to each of Mr. Weiss and Dr. Rosenwald that cover shares of our common stock that are owned by Fortress. These do not represent equity compensation by us to either Mr. Weiss or Dr. Rosenwald.
- (3) The total calculation for all executive officers and directors as a group does not include Mr. Weiss' and Dr. Rosenwald's warrants, which have not yet been exercised. The shares underlying the warrants are currently held by Fortress and are included in the 16,082,895 shares of common stock shown as held by Fortress.
- (4) Includes shares underlying 500,000 warrants issued to each of Mr. Weiss and Dr. Rosenwald.

Fortress Biotech, Inc.

		ommon Stock ially Owned
Name and Address of Beneficial Owner ⁽¹⁾	Number of Shares and Nature of Beneficial Ownership	Percentage of Total Class A Common Stock
City of Hope	845,385	100%
(1) The address City of Hope is 1500 East Duarte Road, Duarte, California 91010.		eferred Stock ially Owned
Name and Address of Beneficial Owner ⁽¹⁾	Number of Shares and Nature of Beneficial	Percentage of Total Class A

⁽¹⁾ The address of Fortress Biotech Inc. is c/o Fortress Biotech, Inc., 2 Gansevoort Street, 9th Floor, New York,

250,000

PROPOSAL ONE: ELECTION OF DIRECTORS; NOMINEES

Our Bylaws provide that the Board shall consist of not more than nine nor less than one member, as determined from time to time by resolution of the Board. Our Board currently consists of six members. The nominated directors are: Michael S. Weiss, Lindsay A. Rosenwald, M.D., Neil Herskowitz, Manuel Litchman, M.D., Michael J. Zelefsky, M.D. and Adam J. Chill. For information about each of the nominees and our Board generally, please see "Corporate Governance — Our Board of Directors" beginning on page 6. If elected, the nominees will hold office until the next annual meeting and until a respective successor is elected and has been qualified, or until such director resigns or is removed from office. Management expects that each of the nominees will be available for election, but if any of them is unable to serve at the time the election occurs, your proxy will be voted for the election of another nominee to be designated by a majority of the independent directors serving on our Board.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A VOTE "FOR" THE ELECTION OF ALL OF THE NOMINEES FOR DIRECTOR. IF A CHOICE IS SPECIFIED ON THE PROXY BY THE STOCKHOLDER, THE SHARES WILL BE VOTED AS SPECIFIED. IF NO SPECIFICATION IS MADE, THE SHARES WILL BE VOTED "FOR" ALL OF THE NOMINEES. THE AFFIRMATIVE VOTE OF THE HOLDERS OF A PLURALITY OF THE SHARES OF COMPANY COMMON STOCK REPRESENTED AND ENTITLED TO VOTE AT THE ANNUAL MEETING AT WHICH A QUORUM IS PRESENT IS REQUIRED FOR THE ELECTION OF THE NOMINEES.

PROPOSAL TWO: RATIFICATION OF APPOINTMENT OF BDO USA, LLP AS OUR INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board is submitting the selection of BDO USA, LLP as our independent registered public accounting firm to the stockholders for ratification at our Annual Meeting. Stockholder ratification of our independent registered public accounting firm is not required by our Bylaws or otherwise. If BDO USA, LLP is not ratified as our independent registered public accounting firm by a majority of the shares present or represented by proxy, the Board will review its future selection of independent registered public accounting firm. BDO USA, LLP will still serve as our independent registered public accounting firm for the year ending December 31, 2021, if it is not ratified by our stockholders.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A VOTE "FOR" RATIFICATION OF THE APPOINTMENT OF BDO USA, LLP AS THE COMPANY'S INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR THE YEAR ENDING DECEMBER 31, 2021. THE AFFIRMATIVE VOTE OF THE MAJORITY OF SHARES PRESENT VIRTUALLY OR REPRESENTED BY PROXY AT THE MEETING AND ENTITLED TO VOTE ON THE SUBJECT MATTER IS REQUIRED FOR APPROVAL.

PROPOSAL THREE: A SHAREHOLDER PROPOSAL ON AN AMENDMENT TO THE COMPANY'S ARTICLES/BYLAWS TO REQUIRE MAJORITY VOTE IN DIRECTOR ELECTIONS

In accordance with SEC rules, we have set forth below a shareholder proposal, along with the supporting statement of the shareholder proponent, for which we and our Board accept no responsibility. The shareholder proposal is required to be voted upon only if properly presented at that Annual Meeting. As explained below, our Board recommends a vote against with regard to the shareholder proposal set forth below.

The Company has been notified that the California Public Employees' Retirement System ("CalPERS"), P.O. Box 2749, Sacramento, California 95812-2749, the beneficial owner of at least \$2,000 in market value of the Company's common stock on the date the proposal was submitted and for at least the preceding eighteen months, intends to present the following proposal at the Annual Meeting:

"RESOLVED, that the shareowners of Mustang Bio, Inc. (Company) hereby request that the Board of Directors initiate the appropriate process to amend the Company's articles of incorporation and/or bylaws to provide that directors shall be elected by the affirmative vote of the majority of votes cast at an annual meeting of shareowners in uncontested elections. A plurality vote standard, however, will apply to contested director elections; that is, when the number of director nominees exceeds the number of board seats."

Supporting Statement from Shareholder:

"Is accountability by the Board of Directors important to you? As a long-term shareowner of the Company, CalPERS thinks accountability is of paramount importance. This is why we are sponsoring this proposal. This proposal would remove a plurality vote standard for uncontested elections that effectively disenfranchises shareowners and eliminates a meaningful shareowner role in uncontested director elections.

Under the Company's current voting system, a director may be elected with as little as one affirmative vote because "withheld" votes have no legal effect. This scheme deprives shareowners of a powerful tool to hold directors accountable because it makes it impossible to defeat directors who run unopposed. Conversely, a majority voting standard allows shareowners to actually vote "against" candidates and to defeat reelection of a management nominee who is unsatisfactory to the majority of shareowners who cast votes.

A substantial number of companies have already adopted this form of majority voting. More than 90% of the companies in the S&P 500 have adopted a form of majority voting for uncontested director elections. We believe the Company should join the growing number of companies that have adopted a majority voting standard requiring incumbent directors who do not receive a favorable majority vote to submit a letter of resignation, and not continue to serve, unless the Board declines the resignation and publicly discloses its reasons for doing so.

Majority voting in director elections empowers shareowners to clearly say "no" to unopposed directors who are viewed as unsatisfactory by a majority of shareowners casting a vote. Incumbent board members serving in a majority vote system are aware that shareowners have the ability to determine whether the director remains in office. The power of majority voting, therefore, is not just the power to effectively remove poor directors, but also the power to heighten director accountability through the threat of a loss of majority support. That is what accountability is all about.

CalPERS believes that corporate governance procedures and practices, and the level of accountability they impose, are closely related to financial performance. It is intuitive that, when directors are accountable for their actions, they perform better. We therefore ask you to join us in requesting that the Board of Directors promptly adopt the majority voting standard for uncontested director elections. We believe the Company's shareowners will substantially benefit from the increased accountability of incumbent directors and the power to reject directors shareowners believe are not acting in their best interests. Please vote FOR this proposal."

Company Response:

The Board has carefully considered the proposal submitted by the California Public Employees' Retirement System (the "CalPERS Proposal") and, following its review of the CalPERS Proposal, does not believe that the CalPERS Proposal is in the best interests of the Company or its shareholders at this time. Accordingly, the Board unanimously recommends that the Company's shareholders vote AGAINST the CalPERS Proposal.

The Board does not believe that electing directors under a majority vote standard would result in a more effective Board. Importantly, the proponent has not asserted that the Board has not acted in the best interests of the Company's shareholders. The Company's shareholders have a history of electing strong and independent Boards, not only by a plurality, but by a sizeable majority of votes cast. Consequently, the Board is hesitant to make a fundamental change to the Company's corporate governance system.

Plurality voting is the default standard under Delaware law for the election of directors. A plurality vote standard guarantees a full board of directors as long as there are at least as many nominees as open seats, and avoids problems associated with failed elections (that is, an election in which a director is not chosen and a vacancy on the Board is created) and resulting holdover directors. A majority vote standard is problematic in these regards, and a failed election as to one or more director nominees could have other undesirable and disruptive consequences for the Company. For example, as a company listed on the Nasdaq Stock Market, or Nasdaq, the Company must comply with listing standards that include requirements for maintaining independent directors and directors with particular qualifications or expertise. The failure to elect a particular nominee, depending on the independence and qualifications of the remaining directors, could impair the Company's ability to comply with those listing standards, and might jeopardize the Company's continued listing on Nasdaq.

The Board is also concerned about other additional consequences that may result from adopting the CalPERS Proposal, including the potential unnecessary increase in the cost of soliciting shareholder votes. Implementing the CalPERS Proposal could provide special interest shareholder groups with the ability to promote "vote-no" campaigns that the Board believes are not in the Company's best interests or the best interests of its shareholders, and would force the Company to employ a proactive telephone solicitation, second mailing or other vote-getting strategy to obtain the required votes. The end result may be increased spending for routine elections. The Board does not believe that the costs incurred by the Company in such circumstances would be a wise use of the Company's financial and other resources.

Under the current plurality voting standard, shareholders have the ability to express disapproval of corporate policies, strategy or director candidates through the use of withhold votes. Institutional and retail investors successfully utilize withhold vote campaigns to influence corporate policies and director elections. The use of withhold votes, as opposed to implementation of majority voting, provides the Board with flexibility to appropriately respond to shareholder dissatisfaction without concern for potential corporate governance complications arising from a failed election. In addition, shareholders who are truly dissatisfied with director candidates have the ability to nominate alternative candidates and also may make recommendations for nominations directly to the Company's Corporate Secretary by following the procedures set forth in the Company's Bylaws and related policies.

For these reasons, the Board does not believe adopting a majority voting standard for director elections is in the best interests of the Company or its shareholders at this time. However, the Board will continue to assess developments in director voting standards and remains committed to maintaining the high standards in corporate governance that the Board has demonstrated to date.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A VOTE "AGAINST" THIS PROPOSAL.

PROPOSAL FOUR: AMENDMENT OF THE AMENDED AND RESTATED CERTIFICATE OF INCORPORATION TO INCREASE AUTHORIZED SHARES OF COMMON STOCK

The Board has adopted and approved an amendment (the "Amendment") to the Company's Amendment and Restated Certificate of Incorporation (the "Certificate") to increase the number of our authorized shares of Common Stock from 125,000,000 to 150,000,000. The rights and privileges terms of the additional authorized shares of Common Stock will be identical to those of the currently outstanding shares of Common Stock. However, because the holders of Common Stock do not have preemptive rights to purchase or subscribe for any new issuances of Common Stock, the subsequent potential issuance of additional shares of Common Stock will reduce the current stockholders' percentage ownership interest in the total outstanding shares of Common Stock. The Amendment and the creation of additional shares of authorized Common Stock will not alter current stockholders' relative rights and limitations.

The Certificate of Amendment of the Company's Amended and Restated Certificate of Incorporation that reflects the increase in the authorized Common Stock is attached hereto as Appendix A. The increase in authorized Common Stock will become effective upon the filing of the Certificate of Amendment with the Secretary of State of the State of Delaware, which is expected to occur, if approved, as soon as is reasonably practicable following the Annual Meeting.

Reason for Increase in Authorized Capital

In order to permit us to raise capital or issue our Common Stock for other business purposes, we need to have available unissued but authorized shares of Common Stock and therefore need to increase the number of shares of our Common Stock authorized for issuance. Except as may be effected under our At Market Issuance Sales Agreement dated July 27, 2018 and amended on July 20, 2020 and December 31, 2020, we do not currently have any specific plans to effect public offerings of shares of our Common Stock under our registration statement on Form S-3

As a result of the increase in authorized Common Stock, the Company will be able to issue shares from time to time as may be required for proper business purposes, such as raising additional capital for ongoing operations, establishing strategic relationships with corporate partners, acquiring or investing in complementary businesses or products, and providing equity incentives to employees. In general, the issuance of any new shares of Common Stock will cause immediate dilution to the Company's existing stockholders, may affect the amount of any dividends paid to such stockholders and may reduce the share of the proceeds of the Company that they would receive upon liquidation of the Company.

Effects of Increase

Increasing the Company's authorized Common Stock may enable the Board to render it more difficult to, or discourage an attempt to, obtain control of the Company by means of a merger, tender offer, proxy contest or otherwise, and thereby protect the continuity of present management. The Board would, unless prohibited by applicable law, have additional shares of Common Stock available to effect transactions (such as private placements) in which the number of the Company's outstanding shares would be increased and would thereby dilute the interest of any party attempting to gain control of the Company, even if such party is offering a significant premium over the current market price of the Common Stock. Such an issuance of shares of Common Stock would increase the number of outstanding shares, thereby possibly diluting the interest of a party attempting to obtain control of the Company. The Board is not aware of any attempt, or contemplated attempt, to acquire control of the Company, and the Amendment was not presented with the intent that the increase in the Company's authorized Common Stock be utilized as an anti-takeover measure.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A VOTE "FOR" THE APPROVAL OF THE AMENDMENT OF OUR AMENDED AND RESTATED CERTIFICATE OF INCORPORATION TO INCREASE THE AUTHORIZED SHARES OF COMMON STOCK.

PROPOSAL FIVE: AMENDMENT TO THE COMPANY'S 2016 INCENTIVE PLAN TO INCREASE THE NUMBER OF SHARES ISSUABLE BY 3,000,000 SHARES

Introduction

We are asking our stockholders to approve an amendment to the Mustang Bio, Inc. 2016 Incentive Plan (the "Plan"). Our Plan is the only plan under which equity-based compensation may currently be awarded to our executive officers and employees. In order to enable us to continue to offer meaningful equity-based incentives, as well as cash-based incentives, to our employees, officers, directors and consultants, our board of directors believes that it is both necessary and appropriate to increase the number of shares of our common stock available for these purposes. As a result, on April 28, 2021, the Board of Directors adopted, subject to stockholder approval at the Annual Meeting, an amendment to add 3,000,000 shares to the Plan.

If the amendment to the Plan is approved by our stockholders at the Annual Meeting, it will become effective on the date of the Annual Meeting. If the amendment is not approved by our stockholders, then the Plan will remain in effect as it presently exists.

Background and Number of Shares Requested

In setting the number of proposed shares issuable under our Plan, the Board considered a number of factors, including historical share usage and future share needs. The following are several factors that you should consider in evaluating the proposal to increase the share reserve under the Plan:

- The Plan currently includes authorization for 5,000,000 shares of common stock. As of March 31, 2021, there were 636,585 shares of our common stock remaining available for the grant of equity awards under the Plan. The additional 3,000,000 shares requested under the Plan, together with the remaining shares under the Plan, represent the shares the Company anticipates needing for the next year under normal circumstances.
- Although we must manage our share reserve under the possibility that performance awards will be earned at the maximum level, this will only occur if we achieve the maximum performance under each metric in each award, which is not expected to be the case. Our actual share usage will also vary from our estimate based upon changes in market grant values, changes in the number of recipients, changes in our stock price, changes in the structure of our long-term incentive program, changes in our dividend rate and forfeitures of outstanding awards. We believe that the proposed share reserve reflects an appropriate balance between our desire to allow maximum flexibility in a competitive labor market and stockholder interests of limiting dilution.
- Our Amended and Restated Certificate of Incorporation currently authorizes the issuance of (i) 125,000,000 shares of Common Stock, with \$0.0001 par value, of which 1,000,000 shares are designated as "Class A Common Stock" and the remainder are undesignated Common Stock, and (ii) 2,000,000 shares of Preferred Stock, 250,000 of which are designated as Class A Preferred Stock and the remainder are undesignated Preferred Stock. As of March 31, 2021, there were 85,104,152 shares of common stock and 845,385 shares of Class A common stock issued and outstanding, and the closing price of a share of our common stock as of that date was \$3.32.

Summary of the 2016 Incentive Plan

The material terms of the Plan are described below. The following summary is qualified in its entirety by reference to the complete text of the Plan which is provided with this proxy statement as Appendix B.

Purpose. The purpose of Plan is to promote the success, and enhance the value, of Mustang Bio, Inc. by linking the personal interests of employees, officers, directors and consultants of the Company or any its Affiliates (defined below) to those of Company stockholders and by providing such persons with an incentive for outstanding performance. The Plan is further intended to provide flexibility to the Company in its ability to motivate, attract, and retain the services of employees, officers, directors and consultants upon whose judgment, interest, and special effort the successful conduct of the Company's operation is largely dependent. Accordingly, the Plan permits the grant of incentive awards from time to time to selected employees, officers, directors and consultants of the Company and its Affiliates. "Affiliate" means (i) any Subsidiary or Parent, or

(ii) an entity that directly or through one or more intermediaries controls, is controlled by or is under common control with, the Company, as determined by the Committee.

Permissible Awards. The Plan authorizes the board of directors (or the Compensation Committee) to grant awards in any of the following forms:

- options to purchase shares of our common stock, which may be nonstatutory stock options or incentive
 stock options under the Internal Revenue Code. The exercise price of an option granted under the Plan
 may not be less than the fair market value of our common stock on the date of grant. Stock options
 granted to U.S. participants under the Plan may not have a term longer than ten (10) years;
- stock appreciation rights, or SARs, which give the holder the right to receive the excess, if any, of the fair
 market value of one (1) share of our common stock on the date of exercise, over the base price of the stock
 appreciation right. The base price of a SAR may not be less than the fair market value of our common
 stock on the date of grant. SARs granted to U.S. participants under the Plan may not have a term longer
 than ten (10) years;
- restricted stock, which is subject to restrictions on transferability and subject to forfeiture on terms set by the Compensation Committee;
- restricted stock units, which represent the right to receive shares of our common stock (or an equivalent value in cash or other property) in the future, based upon the attainment of stated vesting or performance goals set by the Compensation Committee;
- deferred stock units, which represent the right to receive shares of our common stock (or an equivalent value in cash or other property) in the future, generally without any vesting or performance restrictions;
- performance awards, which may be stock-based or cash-based Awards with performance-based vesting criteria, on such terms and conditions as may be selected by the Committee;
- other stock-based awards in the discretion of the Compensation Committee, including unrestricted stock grants; and
- cash-based awards in the discretion of the Compensation Committee, including cash-based performance awards

All awards will be evidenced by a written award certificate between us and the participant, which will include such provisions as may be specified by the Compensation Committee or the independent members of our board of directors. Dividend equivalent rights, which entitle the participant to payments in cash or property calculated by reference to the amount of dividends paid on the shares of stock underlying an award, may be granted with respect to awards other than options or SARs.

Awards to Non-Employee Directors. Awards granted under the Plan to our non-employee directors will be made only in accordance with the terms, conditions and parameters of a plan, program or policy for the compensation of non-employee directors as in effect from time to time. The Compensation Committee may not make discretionary grants under the Plan to non-employee directors. The maximum aggregate number of shares associated with any award granted under the Plan in any calendar year to any one non-employee director is 100,000.

Shares Available for Awards; Adjustments. Subject to adjustment as provided in the Plan, the aggregate number of shares of our common stock reserved and available for issuance pursuant to awards granted under the Plan is 636,585. Shares subject to awards that are canceled, terminated, forfeited, settled in cash, withheld to satisfy exercise prices or tax withholding obligations or otherwise not issued for any reason, including by reason of failure to achieve maximum performance goals, will again be available for awards under the Plan. In the event of a nonreciprocal transaction between us and our stockholders that causes the per share value of our common stock to change (including, without limitation, any stock dividend, stock split, spin-off, rights offering, or large nonrecurring cash dividend), the share authorization limits under the Plan will be adjusted proportionately, and the Compensation Committee must make such adjustments to the Plan and awards as it deems necessary, in its sole discretion, to prevent dilution or enlargement of rights immediately resulting from such transaction.

Administration. The Plan is administered by the Compensation Committee or, at the discretion of the Board from time to time, the Plan may be administered by the Board. It is intended that at least two of the directors appointed to serve on the Committee shall be Independent Directors and that any members of the Committee who do not so qualify shall abstain from participating in any decision to make or administer Awards that are made to Eligible Participants who at the time of consideration for such Award are persons subject to the short-swing profit rules of Section 16 of the 1934 Act. However, the mere fact that a Committee member shall fail to qualify as an Independent Director or shall fail to abstain from such action shall not invalidate any Award made by the Committee which Award is otherwise validly made under the Plan. The members of the Committee shall be appointed by, and may be changed at any time and from time to time in the discretion of, the Board. Unless and until changed by the Board, the Compensation Committee of the Board is designated as the Committee to administer the Plan. The Board may reserve to itself any or all of the authority and responsibility of the Committee under the Plan or may act as administrator of the Plan for any and all purposes. To the extent the Board has reserved any authority and responsibility or during any time that the Board is acting as administrator of the Plan, it shall have all the powers and protections of the Committee hereunder, and any reference herein to the Committee (other than in this Section 4.1) shall include the Board. To the extent any action of the Board under the Plan conflicts with actions taken by the Committee, the actions of the Board shall control.

Limitations on Transfer; Beneficiaries. No right or interest of a Participant in any unexercised or restricted Award may be pledged, encumbered, or hypothecated to or in favor of any party other than the Company or an Affiliate, or shall be subject to any lien, obligation, or liability of such Participant to any other party other than the Company or an Affiliate. No unexercised or restricted Award shall be assignable or transferable by a Participant other than by will or the laws of descent and distribution; provided, however, that Nonstatutory Stock Options may be transferred without consideration to members of a Participant's immediate family ("Immediate Family Members"), to trusts in which such Immediate Family Members have more than fifty percent (50%) of the beneficial interest, to foundations in which such Immediate Family Members (or the Participant) control the management of assets, and to any other entity (including limited partnerships and limited liability companies) in which the Immediate Family Members (or the Participant) own more than fifty percent (50%) of the voting interest; and, provided, further, that the Committee may (but need not) permit other transfers (other than transfers for value) where the Committee concludes that such transferability (i) does not result in accelerated taxation, (ii) does not cause any Option intended to be an Incentive Stock Option to fail to be described in Code Section 422(b), and (iii) is otherwise appropriate and desirable, taking into account any factors deemed relevant, including without limitation, state or federal tax or securities laws applicable to transferable Awards.

Treatment of Awards upon a Change in Control. Upon the occurrence of a Change in Control: (i) outstanding Options, SARs, and other Awards in the nature of rights that may be exercised shall become fully exercisable, (ii) time-based vesting restrictions on outstanding Awards shall lapse, and (iii) the target payout opportunities attainable under outstanding performance-based Awards shall be deemed to have been fully earned as of the effective date of the Change in Control based upon an assumed achievement of all relevant performance goals at the "target" level, and there shall be a pro rata payout to Participants within sixty (60) days following the Change in Control (unless a later date is required by Section 16.3 hereof), based upon the length of time within the performance period that has elapsed prior to the Change in Control. Any Awards shall thereafter continue or lapse in accordance with the other provisions of the Plan and the Award Certificate. To the extent that this provision causes Incentive Stock Options to exceed the dollar limitation set forth in Code Section 422(d), the excess Options shall be deemed to be Nonstatutory Stock Options.

Discretionary Acceleration. The Compensation Committee may, in its discretion, accelerate the vesting and/or payment of any awards for any reason, subject to certain limitations under Section 409A of the Internal Revenue Code. The Compensation Committee may discriminate among participants or among awards in exercising such discretion.

Certain Transactions. Upon the occurrence or in anticipation of certain corporate events or extraordinary transactions, the Compensation Committee may also make discretionary adjustments to awards, including settling awards for cash, providing that awards will become fully vested and exercisable, providing for awards to be assumed or substituted, or modifying performance targets or periods for awards.

Termination and Amendment. Unless earlier terminated as provided in the Plan, the Plan will terminate on the tenth (10th) anniversary of its adoption, or, if the stockholders approve this proposal three, the tenth (10th) anniversary of the date of such approval, unless earlier terminated by our Board of Directors or Compensation Committee

The Board or the Committee may, at any time and from time to time, amend, modify or terminate the Plan without stockholder approval; however, if an amendment to the Plan would, in the reasonable opinion of the Board or the Committee, constitute a material change requiring stockholder approval under applicable laws, policies or regulations or the applicable listing or other requirements of an Exchange, then such amendment shall be subject to stockholder approval; and provided, further, that the Board or Committee may condition any other amendment or modification on the approval of stockholders of the Company for any reason, including by reason of such approval being necessary or deemed advisable (i) to comply with the listing or other requirements of an Exchange, or (ii) to satisfy any other tax, securities or other applicable laws, policies or regulations. Except for any mandatory adjustments to the Plan and Awards required under the Plan, without the prior approval of the stockholders of the Company, the Plan may not be amended to permit: (i) the exercise price or base price of an Option or SAR to be reduced, directly or indirectly, (ii) an Option or SAR to be cancelled in exchange for cash, other Awards, or Options or SARs with an exercise or base price that is less than the exercise price or base price of the original Option or SAR, or otherwise, or (iii) the Company to repurchase an Option or SAR for value (in cash or otherwise) from a Participant if the current Fair Market Value of the Shares underlying the Option or SAR is lower than the exercise price or base price per share of the Option or SAR.

Prohibition on Repricing. As indicated above under "Termination and Amendment," outstanding stock options and SARs cannot be repriced, directly or indirectly, without the prior consent of our stockholders. The exchange of an "underwater" option or stock appreciation right (i.e., an option or stock appreciation right having an exercise price or base price in excess of the current market value of the underlying stock) for cash or for another award would be considered an indirect repricing and would, therefore, require the prior consent of our stockholders.

Certain Federal Tax Effects

The following discussion is limited to a summary of the U.S. federal income tax provisions relating to the grant, exercise and vesting of awards under the Plan and the subsequent sale of common stock acquired under the Plan. The tax consequences of awards may vary depending upon the particular circumstances, and it should be noted that the income tax laws, regulations and interpretations thereof change frequently. Participants should rely upon their own tax advisors for advice concerning the specific tax consequences applicable to them, including the applicability and effect of state, local, and foreign tax laws.

Nonstatutory Stock Options. There typically will be no federal income tax consequences to the optionee or to us upon the grant of a nonstatutory stock option under the Plan. When the optionee exercises a nonstatutory option, however, he or she will recognize ordinary income in an amount equal to the excess of the fair market value of our common stock received upon exercise of the option at the time of exercise over the exercise price, and we will typically be allowed a corresponding deduction. Any gain that the optionee realizes when he or she later sells or disposes of the option shares will be short-term or long-term capital gain, depending on how long the shares were held.

Incentive Stock Options. There typically will be no federal income tax consequences to the optionee or to us upon the grant or exercise of an incentive stock option. If the optionee holds the option shares for the required holding period of at least two (2) years after the date the option was granted and one (1) year after exercise, the difference between the exercise price and the amount realized upon sale or disposition of the option shares will be long-term capital gain or loss, and we will not be entitled to a federal income tax deduction. If the optionee disposes of the option shares in a sale, exchange, or other disqualifying disposition before the required holding period ends, he or she will recognize taxable ordinary income in an amount equal to the excess of the fair market value of the option shares at the time of exercise (or, if less, the amount realized on the disposition of the shares) over the exercise price, and we would typically be allowed a federal income tax deduction equal to such amount. While the exercise of an incentive stock option does not result in current taxable income, the excess of the fair market value of the option shares at the time of exercise over the exercise price will be an item of adjustment for purposes of determining the optionee's alternative minimum taxable income.

Stock Appreciation Rights. A participant receiving a stock appreciation right typically will not recognize income, and we will not be allowed a tax deduction, at the time the award is granted. When the participant exercises the stock appreciation right, the amount of cash and the fair market value of any shares of our common stock received will be ordinary income to the participant and we will typically be allowed as a corresponding federal income tax deduction at that time.

Restricted Stock. Unless a participant makes an election to accelerate recognition of income to the date of grant as described below, the participant will not recognize income, and we will not be allowed a tax deduction, at the time a restricted stock award is granted, provided that the award is subject to restrictions on transfer and is subject to a substantial risk of forfeiture. When the restrictions lapse, the participant will recognize ordinary income equal to the fair market value of our common stock as of that date (less any amount he or she paid for the stock), and we will typically be allowed a corresponding federal income tax deduction at that time, subject to limitations in certain circumstances. If the participant files an election under Code Section 83(b) within thirty (30) days after the date of grant of the restricted stock, he or she will recognize ordinary income as of the date of grant equal to the fair market value of the stock as of that date (less any amount paid for the stock), and we will typically be allowed a corresponding federal income tax deduction, subject to limitations in certain circumstances at that time. Any future appreciation in the stock will be taxable to the participant at capital gains rates. However, if the stock is later forfeited, the participant will not be able to recover the tax previously paid pursuant to the Section 83(b) election. To the extent unrestricted dividends are paid during the restricted period under the applicable award agreement, any such dividends will be taxable to the participant at ordinary income tax rates and will be deductible by us unless the participant has made a Section 83(b) election, in which case the dividends will thereafter be taxable to the participant as dividends and will not be deductible by us.

Stock Units. A participant typically will not recognize income, and we will not be allowed a tax deduction, at the time a stock unit award is granted. Upon receipt of shares of our common stock (or the equivalent value in cash) in settlement of a stock unit award, a participant will recognize ordinary income equal to the fair market value of our common stock or other property as of that date, and we will typically be allowed a corresponding federal income tax deduction at that time, subject to limitations in certain circumstances.

Cash-Based Performance Awards. A participant will not recognize income, and we will not be allowed a tax deduction, at the time a cash-based performance award is granted (for example, when the performance goals are established). Upon receipt of cash in settlement of the award, the participant will recognize ordinary income equal to the cash received, and we will typically be allowed a corresponding federal income tax deduction at that time, subject to limitations in certain circumstances.

Existing Plan Benefits

Awards under the Plan are at the discretion of the Compensation Committee. Accordingly, future awards under the Plan are not determinable. The table below shows the number of shares issued or subject to awards granted under the Plan through March 31, 2021, to our named executive officers and the other individuals and groups indicated.

Name and Position	Aggregate Number of Shares Subject to Options Granted under the Plan Since Plan Inception (# of shares)	Aggregate Number of Shares Subject to Restricted Stock or Stock Units Granted under the Plan Since Plan Inception (# of shares)
Manuel Litchman, M.D.	1,041,675	183,000
President and Chief Executive Officer		
Brian Achenbach	_	148,750
Senior Vice President, Finance and Corporate Controller		
All Executive Officers as a Group	1,041,675	331,750
All Employees as a Group (excluding executive officers)	_	2,177,875
All Non-Employees as a Group	100,000	330,000
All Non-Employee Directors as a Group	_	382,115

Securities Authorized for Issuance Under Equity Compensation Plans

The following table contains information about our equity compensation plans as of December 31, 2020.

	Equity Compensation P			
Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted- average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))	
	(a)	(b)	(c)	
Equity compensation plans approved by security holders	1,141,675	\$ 5.73	1,439,229	
Equity compensation plans not approved by security holders	_	_	_	
Total	1,141,675	\$ 5.73	1,439,229	

Our equity compensation plans consist of the Mustang Bio, Inc. 2016 Incentive Plan, as amended, and the Mustang Bio, Inc. 2019 Employee Stock Purchase Plan, which were approved by our stockholders. We do not have any equity compensation plans or arrangements that have not been approved by our stockholders.

THE BOARD RECOMMENDS A VOTE "FOR" THE APPROVAL OF THE AMENDMENT TO OUR 2016 INCENTIVE PLAN TO INCREASE THE NUMBER OF AUTHORIZED SHARES ISSUABLE THEREUNDER BY 3,000,000 SHARES. THE AFFIRMATIVE VOTE OF THE MAJORITY OF SHARES PRESENT VIRTUALLY OR REPRESENTED BY PROXY AT THE MEETING AND ENTITLED TO VOTE ON THE SUBJECT MATTER IS REQUIRED FOR APPROVAL.

PROPOSAL SIX: AMENDMENT OF OUR 2019 EMPLOYEE STOCK PURCHASE PLAN TO INCREASE THE NUMBER OF SHARES AVILABLE UNDER THE PLAN BY 600,000 SHARES

The Board has adopted an amendment (the "Amendment") to the Mustang Bio, Inc. 2019 Employee Stock Purchase Plan (the "2019 Plan"), providing for the issuance of up to an additional 600,000 shares of the Company's common stock, \$0.0001 par value per share (the "Shares") to eligible employees, including our executive officers, subject to stockholder approval of the Amendment. We believe that the Amendment will benefit the Company because providing employees of the Company with an opportunity to purchase Shares should prove helpful in attracting, retaining, and motivating valued employees.

The following is a summary of the material provisions of the 2019 Plan and is qualified in its entirety by reference to the complete text of the 2019 Plan, a copy of which was filed with our proxy statement dated April 30, 2019, as Exhibit A.

General Information

The 2019 Plan is intended to qualify as an "employee stock purchase plan" under Section 423 of the Internal Revenue Code of 1986, as amended, (the "Code"). There are currently 400,000 Shares reserved for issuance under the 2019 Plan. The purpose of the 2019 Plan is to attract, retain and motivate employees of the Company by permitting them to participate in the ownership of the Company.

Administration of the Plan

The 2019 Plan is administered by our Board and/or by a committee of our Board having such power as shall be specified by our Board. Generally, each offering of common stock under the 2019 Plan (an "Offering") is for a period of approximately six (6) months duration ("Offering Period"). Our Board may adjust the Offering Periods, subject to certain limitations. The 2019 Plan will continue until terminated by our Board or until all of the Shares reserved for issuance under the 2019 Plan have been issued.

Eligibility

Participation in the 2019 Plan is limited to eligible employees of the Company and any parent or subsidiary corporation of the Company designated by our Board for inclusion in the 2019 Plan (individually, a "Participating Company") who authorize payroll deductions. Payroll deductions may not exceed 10% of compensation. No person who owns Shares or holds options to purchase, or who as a result of participation in the 2019 Plan would own Shares or hold options to purchase, 5% or more of the total combined voting power or value of all classes of stock of the Company is entitled to participate in the 2019 Plan. In addition, employees (1) who customarily work fewer than 20 hours per week or (2) who customarily work now more than five months in any calendar year are not eligible to participate. Once an employee becomes a participant in the 2019 Plan (a "Participant"), the employee will automatically participate in each successive Offering until such time as the employee either ceases to be an eligible employee, withdraws from the 2019 Plan or terminates employment. As of March 31, 2021, approximately 96 employees would be eligible to participate in the 2019 Plan.

Generally, Offerings will be six months in duration and will commence on September 1 and end on February 28 (or 29 in the case of a leap year) and then commence on March 1 and end on August 31.

Purchase of and Payment for Securities Offered

Each Offering Period shall consist of one purchase period of approximately six months duration (individually, a "Purchase Period"). On the last day of each Purchase Period (the "Purchase Date"), Shares are purchased based on accumulated payroll deductions. The purchase price per share at which the Shares are sold under the 2019 Plan generally will be 85% of the lesser of the fair market value of the Shares on the first day of the Offering or the Purchase Date

The number of Shares a Participant purchases in each Offering is determined by dividing the total amount of payroll deductions withheld from the Participant's compensation by the purchase price. Subject to certain limitations, during an Offering each Participant has a "Purchase Right" consisting of the right to purchase the lesser of (i) the whole number of Shares determined by dividing \$25,000 by the fair market value of a Share on

the first day of the Offering and (ii) 5,000 Shares. However, Participants may not purchase Shares under the 2019 Plan or any other employee stock purchase plan under Section 423 of the Code having a fair market value exceeding \$25,000 (as determined for purposes of the Code as of the Offering date for each Offering) in any calendar year in which such Participant's Purchase Right with respect to such Offering remains outstanding. Any cash balance remaining in the Participant's account is refunded to the Participant as soon as practicable after the Purchase Date. If the refund is less than the amount necessary to purchase a whole Share, the Company may maintain the cash in the Participant's account and apply it toward the purchase of Shares in the subsequent Purchase Period or Offering.

A Participant may withdraw from an Offering at any time without affecting his or her eligibility to participate in future Offerings. In effect therefore, a Participant is given an option which he or she may or may not exercise at the end of a Purchase Period. However, once a Participant withdraws from an Offering, that Participant may not again participate in the same Offering.

In the event of a Transfer of Control of the Company (as defined in the 2019 Plan), the Board, in its sole discretion, may arrange with the surviving, continuing, successor, or purchasing corporation or parent corporation thereof (the "Acquiring Corporation") to assume the Company's rights and obligations under the 2019 Plan. Purchase Rights which are neither assumed by the Acquiring Corporation nor exercised as of the Transfer of Control terminate as of the date of the Transfer of Control.

The Board may amend or terminate the 2019 Plan but may not affect Purchase Rights previously granted under the 2019 Plan or adversely affect the right of any Participant except as permitted by the 2019 Plan, as necessary to qualify the 2019 Plan as an employee stock purchase plan pursuant to Section 423 of the Code or to obtain qualification or registration of the Shares under applicable foreign, federal or state securities laws. The stockholders must approve any amendment changing the number of Shares reserved under the 2019 Plan or changing the definition of the employees (or class of employees) eligible for participation in the 2019 Plan or the definition of a corporation that may be designated by the Board as a Participating Company within 12 months of the adoption of such amendment.

Federal Income Tax Consequences

The following summary is intended only as a general guide as to the United States federal income tax consequences under current law of participation in the 2019 Plan and does not attempt to describe all possible federal or other tax consequences of such participation. Furthermore, the tax consequences are complex and subject to change, and a taxpayer's particular situation may be such that some variation of the described rules is applicable. This summary assumes that the exercise of a Purchase Right under the 2019 Plan constitutes an exercise pursuant to an "employee stock purchase plan" under Section 423 of the Code.

Purchase Rights

Generally, there are no tax consequences to an employee of either becoming a Participant in the 2019 Plan or purchasing Shares under the 2019 Plan. The tax consequences of a disposition of Shares vary depending on the period such stock is held before its disposition. If a Participant disposes of Shares within two years of the Offering Date or within one year after the Purchase Date on which the Shares are acquired (a "disqualifying disposition"), the Participant recognizes ordinary income in the year of disposition in an amount equal to the excess (if any) of the fair market value of the Shares on the Purchase Date (determined without regard to securities law restrictions) over the purchase price. Any additional gain or resulting loss recognized by the Participant from the disposition of the Shares is a capital gain or loss.

If the Participant disposes of Shares more than two years after the Offering Date or more than one year after the Purchase Date on which the Shares are acquired, or dies while holding Shares (whether or not within such periods) the Participant recognizes ordinary income in the year of disposition or death in an amount equal to the lesser of (1) the excess of the fair market value of the Shares on the date of disposition or death over the purchase price or (2) the excess of the fair market value of the Shares on the Offering Date over the purchase price. For this purpose, fit the purchase price cannot be determined at the date of the Offering Date, then the purchase price is determined as though the option were exercised when granted. Any additional gain recognized by the Participant on the disposition of the Shares is a capital gain. If the Participant disposes of the Shares in a disqualifying disposition, the Company is entitled to a deduction equal to the amount of

ordinary income recognized by the Participant as a result, subject to any applicable limitations under Section 162(m) of the Code. In all other cases, no deduction is allowed the Company.

Adjustments Upon Changes in Capitalization and Other Events

In the event of changes in the common stock of the Company due to a stock split, reverse stock split, stock dividend, recapitalization, combination, reclassification, or like change in the Company's capitalization, or in the event of any merger (including a merger effected for the purpose of changing the Company's domicile), sale or other reorganization, appropriate adjustments shall be made by the Company in the securities subject to purchase under a Purchase Right, the 2019 Plan's Share reserve, the number of Shares subject to a Purchase Right, and in the purchase price per Share.

Restrictions on Resale of Stock

Employees who are executive officers or directors of the Company are subject to the reporting and "short swing" profits liability provisions of Section 16 of the Exchange Act. Such provisions may restrict resale of the Company's common stock purchased under the 2019 Plan. In addition, shares so received by a person deemed an "affiliate" of the Company under the Securities Act must be registered for resale by such person unless such resale complies with the provisions of Rule 144 under the Securities Act. Rule 405 under the Securities Act defines "affiliate" as "a person that directly or indirectly through one or more intermediaries, controls, is controlled by, or is under common control with" the Company. The foregoing is not intended to be a complete statement of applicable law, and employees should rely on their own legal counsel.

THE BOARD RECOMMENDS A VOTE "FOR" THE APPROVAL OF THE AMENDMENT. THE AFFIRMATIVE VOTE OF THE MAJORITY OF SHARES PRESENT VIRTUALLY OR REPRESENTED BY PROXY AT THE MEETING AND ENTITLED TO VOTE ON THE SUBJECT MATTER IS REQUIRED FOR APPROVAL.

ADDITIONAL INFORMATION

Householding of Annual Meeting Materials

Some banks, brokers and other nominee record holders may be participating in the practice of "householding" proxy statements and annual reports. This means that only one copy of our proxy statement and 2020 Annual Report may have been sent to multiple stockholders in your household. We will promptly deliver a separate copy of either document to you if you contact us at: Mustang Bio, Inc., 377 Plantation Street, Worcester, Massachusetts 01605, Attn: Robyn Hunter. You may also contact us at (781) 652-4500.

If you want to receive separate copies of the proxy statement and annual report in the future, or if you are receiving multiple copies and would like to receive only one copy for your household, you should contact your bank, broker, or other nominee record holder, or you may contact us at the above address or phone number.

Stockholder Proposals for Our 2022 Annual Meeting

Only proper proposals under Rule 14a-8 of the Exchange Act which are timely received will be included in the proxy materials for our next annual meeting. In order to be considered timely, such proposal must be received by our Corporate Secretary, Robyn Hunter, at 377 Plantation Street, Worcester, Massachusetts 01605, no later than December 31, 2021. We suggest that stockholders submit any stockholder proposal by certified mail, return receipt requested.

Our Bylaws require stockholders to provide advance notice to the Company of any stockholder director nomination(s) and any other matter a stockholder wishes to present for action at an annual meeting of stockholders (other than matters to be included in our proxy statement, which are discussed in the previous paragraph). In order to properly bring business before an annual meeting, our Bylaws require, among other things, that the stockholder submit written notice thereof complying with our Bylaws to Robyn Hunter, our Corporate Secretary, at the above address, not less than 50 days nor more than 90 days prior to the anniversary of the preceding year's annual meeting. Therefore, the Company must receive notice of a stockholder proposal submitted other than pursuant to Rule 14a-8 (as discussed above) no sooner than March 19, 2022, and no later than April 28, 2022. If a stockholder fails to provide timely notice of a proposal to be presented at our 2022 Annual Meeting of Stockholders, the proxy designated by our Board will have discretionary authority to vote on any such proposal that may come before the meeting.

Other Matters

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

Solicitation of Proxies

We will bear the cost of solicitation of proxies. In addition to the solicitation of proxies by mail, our officers and employees may solicit proxies in person or by telephone. We may reimburse brokers or persons holding stock in their names, or in the names of their nominees, for their expenses in sending proxies and proxy material to beneficial owners.

Incorporation of Information by Reference

The Report of the Board of Directors contained in this proxy statement is not deemed filed with the SEC and shall not be deemed incorporated by reference into any prior or future filings made by us under the Securities Act of 1933, as amended or the Exchange Act, except to the extent that we specifically incorporate such information by reference. Our Annual Report on Form 10-K for the year ended December 31, 2020, delivered to you together with this proxy statement, is hereby incorporated by reference.

APPENDIX A

CERTIFICATE OF AMENDMENT OF THE AMENDED AND RESTATED CERTIFICATE OF INCORPORATION OF MUSTANG BIO, INC.

Mustang Bio, Inc. (the "Corporation"), a corporation organized and existing under and by virtue of the Delaware General Corporation Law (the "DGCL"), does hereby certify:

(1) The Amended and Restated Certificate of Incorporation of the Corporation, as amended, is hereby amended by deleting the first sentence of Article IV, Section A thereof in its entirety and inserting the following in lieu thereof:

"The total number of shares of all classes of capital stock that the Corporation shall have the authority to issue is (i) one hundred fifty million (150,000,000) shares of Common Stock, with \$0.0001 par value, of which one million (1,000,000) shares are designated as "Class A Common Stock" (the "Class A Common Stock") and the remainder are undesignated Common Stock, and (ii) two million (2,000,000) shares of Preferred Stock (the "Preferred Stock"), 250,000 of which are designated as Class A Preferred Stock (the "Class A Preferred Stock") and the remainder are undesignated Preferred Stock."

(2) The foregoing amendment was duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment of the Amended and Restated Certificate of Incorporation, as amended, to be executed and acknowledged by its duly appointed officer as of this day of June, 2021.

MUSTANG BIO, INC.

By:

Name: Manuel Litchman, M.D.

Title: President and Chief Executive Officer

APPENDIX B

SECOND AMENDMENT TO THE MUSTANG BIO, INC. 2016 INCENTIVE PLAN

This Second Amendment to the Mustang Bio, Inc. 2016 Incentive Plan (the "Plan"), is hereby adopted this day of June, 2021, by the Board of Directors (the "Board") of Mustang Bio, Inc. (the "Company").

WITNESETH:

WHEREAS, the Company adopted the Plan for the purposes set forth therein; and

WHEREAS, pursuant to Section 15.1 of the Plan, the Board has the right to amend the Plan with respect to certain matters, provided that any material increase in the number of Shares available under the Plan shall be subject to stockholder approval; and

WHEREAS, the Board has approved and authorized this Second Amendment to the Plan and has recommended that the stockholders of the Company approve this Second Amendment;

NOW, THEREFORE, BE IT RESOLVED, that the Plan is hereby amended, subject to and effective as of the date of stockholder approval hereof, in the following particulars:

- 1. Section 5.1 of the Plan is hereby amended by increasing the share references in such section from 5,000,000 to 8,000,000, so that such section reads in its entirety as follows:
 - "5.1. NUMBER OF SHARES. Subject to adjustment as provided in Sections 5.2 and Section 14.1, the aggregate number of Shares reserved and available for issuance pursuant to Awards granted under the Plan shall be 8,000,000. The maximum number of Shares that may be issued upon exercise of Incentive Stock Options granted under the Plan shall be 8,000,000. The maximum aggregate number of Shares associated with any Award granted under the Plan in any calendar year to any one Non-Employee Director shall be 100,000 Shares."
- 2. Except as specifically set forth herein, the terms of the Plan shall be and remain unchanged, and the Plan as amended shall remain in full force and effect.

The foregoing is hereby acknowledged as being the Second Amendment to the Plan, as adopted by the Board on April 28, 2021, and approved by the Company's stockholders on June , 2021.

MUSTANG BIO, INC.

By:	
	Manuel Litchman, M.D. President and Chief Executive Officer

APPENDIX C

AMENDMENT TO THE MUSTANG BIO, INC. 2019 EMPLOYEE STOCK PURCHASE PLAN

This amendment (the "Amendment") to the Mustang Bio, Inc. 2019 Employee Stock Purchase Plan (the "Plan"), is hereby adopted this day of June, 2021, by the Board of Directors (the "Board") of Mustang Bio, Inc. (the "Company").

WITNESETH:

WHEREAS, the Company adopted the Plan for the purposes set forth therein; and

WHEREAS, pursuant to Section 21 of the Plan, the Board has the right to amend the Plan with respect to certain matters, provided that any material increase in the number of Shares available under the Plan shall be subject to stockholder approval; and

WHEREAS, the Board has approved and authorized this Amendment to the Plan and has recommended that the stockholders of the Company approve this Amendment;

NOW, THEREFORE, BE IT RESOLVED, that the Plan is hereby amended, subject to and effective as of the date of stockholder approval hereof, in the following particulars:

- 1. Section 3 of the Plan is hereby amended by increasing the share references in such section from 400,000 to 1,000,000, so that such section reads in its entirety as follows:
 - "3. Share Reserve. The maximum number of shares which may be issued under the Plan shall be one million (1,000,000) shares of Mustang's authorized but unissued common stock, \$0.0001 par value (the "Shares"). In the event that any Purchase Right for any reason expires or is canceled or terminated, the Shares allocable to the unexercised portion of such Purchase Right may again be subjected to a Purchase Right."
- Except as specifically set forth herein, the terms of the Plan shall be and remain unchanged, and the Plan as amended shall remain in full force and effect.

The foregoing is hereby acknowledged as being the Amendment to the Plan, as adopted by the Board on April 28, 2021, and approved by the Company's stockholders on June , 2021.

MUSTANG BIO, INC.

Ву:	
	Manuel Litchman, M.D.
	President and Chief Executive Officer

0000511331

Signature [PLEASE SIGN WITHIN BOX]



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

VOTE BY INTERNET - www.proxyvote.com
Use the Internet to transmit your voting instructions and for electronic delivery of information. Vote by 11:59 P.M. ET on 00/16/2021. Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and to create an electronic voting instruction form.

During The Meeting - Go to www.virtualshareholdermeeting.com/MBIO2021

You may attend the meeting via the Internet and vote during the meeting. Have the information that is printed in the box marked by the arrow available and follow the instructions.

VOTE BY PHONE - 1-800-690-6903

Use any touch-tone telephone to transmit your voting instructions. Vote by 11:59 P.M. ET on 06/16/2021. Have your proxy card in hand when you call and then follow the instructions.

VOTE BY MAIL
Mark, sign and date your proxy card and return it in the postage-paid envelope we have
provided or return it to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood,
NY 11717.

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

	Board of Directors recommends you vote FOR		Withhold All	For All Except	To withhold authority to vote for any individual nominee(s), mark "For All Except" and write the number(s) of the nominee(s) on the line below.		_	\neg
the	following:	0	0					
1.	Election of Directors							•
	Nominees							
	Michael S. Weiss 02) Lindsay Rosenwald, Adam J. Chill	M.D.	03) Ne	il Hersko	witz 04) Manuel Litchman, M.D.	05) Michael Z	elefsky,	M.D.
The	Board of Directors recommends you vote FOR proposa	1 2:				For	Against	Abstain
2.	 Ratify the appointment of BDO USA, LLP as the Company's independent registered public accounting firm for the year ending December 31, 2021. 				0	0	0	
The	Board of Directors recommends you vote AGAINST pro	posal	3:			For	Against	Abstain
3.	A shareholder proposal on an amendment to the Company's articles/bylaws to require a majority vote in director elections.				0	0	0	
The	Board of Directors recommends you vote FOR proposa	1s 4,	5 and 6:			For	Against	Abstain
4.	Amendment of the Amended and Restated Certificate of Common Stock. $% \label{eq:common}%$	of Inc	orporatio	n to inc	ease the number of authorized shares	0	0	
5.	Amendment to the Company's 2016 Incentive Plan to	increa	ise the nu	mber of s	hares issuable by Mustang Bio, Inc.	0		0
6.	Amendment of our 2019 Employee Stock Purchase Plan	to ir	crease th	e number	of shares available under the Plan.	0		
NOTI	E: Such other business as may properly come before	the me	eting or	any adjoi	rnment thereof.			

Signature (Joint Owners)

Date

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

Date

THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting:

The Annual Report and Notice and Proxy Statement are available at www.proxyvote.com

MUSTANG BIO, INC.

Annual Meeting of Stockholders
June 17, 2021 3:00 PM, EDT
This proxy is solicited by the Board of Directors

The stockholder(s) hereby appoint(s) Manuel Litchman, M.D. and Brian Achenbach, or either of them, as proxies, each with the power to appoint his substitute, and hereby authorize(s) them to represent and to vote, as designated on the reverse side of this ballot, all of the shares of (Common/Preferred) Stock of MUSTANG BIO, INC. that the stockholder(s) is/are entitled to vote at the Annual Meeting of Stockholders to be held at 3:00 PM, EDT on June 17, 2021, virtually at www.virtualshareholdermeeting.com/MBIO2021, and any adjournment or postponement thereof.

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

Continued and to be signed on reverse side

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