

XENETIC BIOSCIENCES, INC.
40 Speen Street, Suite 102
Framingham, Massachusetts 01701

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

To Be Held On December 4, 2019

Dear Stockholder:

You are cordially invited to attend the Annual Meeting of Stockholders of **XENETIC BIOSCIENCES, INC.**, a Nevada corporation (the "Company"). The meeting will be held on Wednesday, December 4, 2019 at 10:00 a.m. local time at the offices of Holland & Knight LLP, 701 Brickell Avenue, Suite 3300, Miami, Florida 33131 for the following purposes:

1. To elect the Board's nominees, Grigory G. Borisenko, James E. Callaway, Firdaus Jal Dastoor, Jeffrey F. Eisenberg, Dmitry Genkin, Roger Kornberg, Adam Logal and Alexey Vinogradov, to the Board of Directors to serve until the next annual meeting and their successors are duly elected and qualified.
2. To ratify the selection by the Audit Committee of Marcum LLP as the independent registered public accounting firm of the Company for its fiscal year ending December 31, 2019.
3. To approve, by non-binding advisory vote, the resolution approving the named executive officer compensation ("Say on Pay").
4. To approve the Company's Amended and Restated Equity Incentive Plan, to, among other things, increase the aggregate number of shares of common stock authorized under the plan by 750,000 shares.
5. To conduct any other business properly brought before the meeting.

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

The record date for the Annual Meeting is October 25, 2019. Only stockholders of record at the close of business on that date may vote at the meeting or any adjournment thereof.

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting of Stockholders to Be Held on Wednesday, December 4, 2019 at 10:00 a.m. local time at the offices of Holland & Knight LLP, 701 Brickell Avenue, Suite 3300, Miami, Florida 33131.

The Proxy Statement, the Notice of the Annual Meeting and our Annual Report on Form 10-K for the fiscal year ended December 31, 2018, as amended (the "Annual Report to Stockholders") are available at www.xeneticbio.com.

By Order of the Board of Directors

/s/ James Parslow

James Parslow
Secretary

Framingham, Massachusetts
November 8 2019

You are cordially invited to attend the Annual Meeting in person. Whether or not you expect to attend the Annual Meeting, please complete, date, sign and return the enclosed proxy, or vote over the telephone or the internet as instructed in these proxy materials, as promptly as possible in order to ensure your representation at the Annual Meeting. A return envelope (which is postage prepaid if mailed in the United States) has been provided for your convenience. Even if you have voted by proxy, you may still vote in person if you attend the Annual Meeting. Please note, however, that if your shares are held of record by a broker, bank or other nominee and you wish to vote at the meeting, you must obtain a proxy issued in your name from that record holder.

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XENETIC BIOSCIENCES, INC.
40 Speen Street, Suite 102
Framingham, Massachusetts 01701

PROXY STATEMENT
FOR THE 2019 ANNUAL MEETING OF STOCKHOLDERS

To Be Held On December 4, 2019

QUESTIONS AND ANSWERS ABOUT THESE PROXY MATERIALS AND VOTING

This proxy statement and the enclosed form of proxy are being sent to you because the Board of Directors of Xenetic Biosciences, Inc. (the “Company” or “Xenetic”) is soliciting your proxy to vote at the 2019 Annual Meeting of Stockholders, including at any adjournments or postponements thereof (the “Annual Meeting”). We intend to mail these proxy materials on or about November 8, 2019 to all stockholders of record entitled to vote at the Annual Meeting.

You are invited to attend the Annual Meeting to vote on the proposals described in this proxy statement. However, you do not need to attend the Annual Meeting to vote your shares. Instead, you may simply complete, sign and return the enclosed proxy card, or follow the instructions below to submit your proxy over the telephone or through the internet.

The information provided in the “question and answer” format below is for your convenience only and is merely a summary of the information contained in this proxy statement. You should read this entire proxy statement carefully. Information contained on, or that can be accessed through, our website is not intended to be incorporated by reference into this proxy statement and references to our website address in this proxy statement are inactive textual references only.

How do I attend the Annual Meeting?

The meeting will be held on Wednesday, December 4, 2019 at 10:00 a.m. local time at the offices of Holland & Knight LLP, 701 Brickell Avenue, Suite 3300, Miami, Florida 33131. If you wish to attend the Annual Meeting in person, please notify us in advance and, if you hold your shares in an account with a broker or bank, provide evidence that you were a stockholder on the record date. We must receive your request at least two business days prior to the meeting at 40 Speen Street, Suite 102, Framingham, Massachusetts 01701, by telephone to 781-778-7720 or by email at ir@xeneticbio.com. It will be necessary to present your picture identification to gain entrance to the 701 Brickell Avenue building. Information on how to vote in person at the Annual Meeting is discussed below.

Who can vote at the Annual Meeting?

Only stockholders of record at the close of business on October 25, 2019 will be entitled to vote at the Annual Meeting. On this record date, there were 5,755,141 shares of common stock outstanding and entitled to vote.

Stockholder of Record: Shares Registered in Your Name

If on October 25, 2019 your shares were registered directly in your name with the Company's transfer agent, Empire Stock Transfer, then you are a stockholder of record. As a stockholder of record, you may vote in person at the meeting or vote by proxy. Whether or not you plan to attend the meeting, we urge you to fill out and return the enclosed proxy card or vote by proxy over the telephone or on the internet as instructed below to ensure your vote is counted.

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

If on October 25, 2019 your shares were held, not in your name, but rather in an account at a brokerage firm, bank, dealer or other similar organization, 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 to be the stockholder of record for purposes of voting at the Annual Meeting. As a beneficial owner, you have the right to direct your broker or other agent regarding how to vote the shares in your account. You are also invited to attend the Annual Meeting. However, since you are not the stockholder of record, you may not vote your shares in person at the meeting unless you request and obtain a valid proxy from your broker or other agent.

What am I voting on?

There are four matters scheduled for a vote:

- Election of eight directors;
- Ratification of the selection by the Audit Committee of Marcum LLP as the independent registered public accounting firm of the Company for its fiscal year ending December 31, 2019;
- Approval, on an advisory, non-binding basis, of the compensation of our named executive officers; and
- To approve the Company's Amended and Restated Equity Incentive Plan, to, among other things, increase the aggregate number of shares of common stock authorized under the plan by 750,000 shares.

What if another matter is properly brought before the meeting?

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

How do I vote?

You may either vote “FOR” all the nominees to the Board of Directors or you may “WITHHOLD” your vote for any nominee you specify. For each of the other matters to be voted on, you may vote “FOR” or “AGAINST” or abstain from voting.

The procedures for voting are fairly simple:

Stockholder of Record: Shares Registered in Your Name

If you are a stockholder of record, you may vote in person at the Annual Meeting, vote by proxy using the enclosed proxy card, vote by proxy over the telephone, or vote by proxy through the internet. Whether or not you plan to attend the meeting, we urge you to vote by proxy to ensure your vote is counted. You may still attend the meeting and vote in person even if you have already voted by proxy.

- To vote in person, come to the Annual Meeting and we will give you a ballot when you arrive.
- To vote using the proxy card, simply complete, sign and date the enclosed proxy card and return it promptly in the envelope provided. If you return your signed proxy card to us before the Annual Meeting, we will vote your shares as you direct.
- To vote over the telephone, dial 702-818-5898 using a touch-tone phone and follow the recorded instructions. You will be asked to provide the company number and control number from the enclosed proxy card. Your telephone vote must be received by 2:00 p.m. Eastern Time on December 3, 2019 to be counted.
- To vote through the internet, go to <https://stocktrack.simplyvoting.com> to complete an electronic proxy card. You will be asked to provide the company number and control number from the enclosed proxy card. Your internet vote must be received by 2:00 p.m. Eastern Time on December 3, 2019 to be counted.

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

If you are a beneficial owner of shares registered in the name of your broker, bank, or other agent, you should have received a voting instruction form with these proxy materials from that organization rather than from us. Simply complete and mail the voting instruction form to ensure that your vote is counted. Alternatively, you may vote by telephone or over the internet as instructed by your broker or bank. To vote in person at the Annual Meeting, you must obtain a valid proxy from your broker, bank or other agent. Follow the instructions from your broker or bank included with these proxy materials, or contact your broker or bank to request a proxy form.

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

How many votes do I have?

On each matter to be voted upon, you have one vote for each share of common stock you own as of October 25, 2019.

What happens if I do not vote?*Stockholder of Record: Shares Registered in Your Name*

If you are a stockholder of record and do not vote by completing your proxy card, by telephone, through the internet or in person at the Annual Meeting, your shares will not be voted.

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

If you are a beneficial owner and do not instruct your broker, bank, or other agent how to vote your shares, the question of whether your broker or nominee will still be able to vote your shares depends on whether the particular proposal is deemed by applicable laws to be a “routine” matter. Brokers and nominees can use their discretion to vote “uninstructed” shares with respect to matters that are considered to be “routine,” but not with respect to “non-routine” matters. Under applicable rules, “non-routine” matters are matters that may substantially affect the rights or privileges of stockholders, such as mergers, stockholder proposals, elections of directors (even if not contested), executive compensation (including any advisory stockholder votes on executive compensation and on the frequency of stockholder votes on executive compensation), and certain corporate governance proposals, even if management-supported. Accordingly, your broker or nominee may not vote your shares on Proposal 1, Proposal 3 or Proposal 4 without your instructions, but may vote your shares on Proposal 2 even in the absence of your instruction.

What if I return a proxy card or otherwise vote but do not make specific choices?

If you return a signed and dated proxy card or otherwise vote without marking voting selections, your shares will be voted, as applicable, “FOR” the election of all eight nominees for director; “FOR” the ratification of Marcum LLP as the independent registered public accounting firm of the Company for its fiscal year ending December 31, 2019; “FOR” the approval, on an advisory, non-binding basis, of the compensation of our named executive officers; and “FOR” the approval of the Company’s Amended and Restated Equity Incentive Plan, to, among other things, increase the aggregate number of shares of common stock authorized under the plan by 750,000 shares. If any other matter is properly presented at the meeting, your proxyholder (one of the individuals named on your proxy card) will vote your shares using his best judgment.

Who is paying for this proxy solicitation?

We will pay for the entire cost of soliciting proxies. In addition to these proxy materials, our directors and employees may also solicit proxies in person, by telephone, or by other means of communication. Directors and employees will not be paid any additional compensation for soliciting proxies. We may also reimburse brokerage firms, banks and other agents for the cost of forwarding proxy materials to beneficial owners.

What does it mean if I receive more than one set of proxy materials?

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

Can I change my vote after submitting my proxy?

Stockholder of Record: Shares Registered in Your Name

Yes. You can revoke your proxy by attending the Annual Meeting and voting in person.

- You may submit another properly completed proxy card with a later date.
- You may grant a subsequent proxy by telephone or through the internet.
- You may send a timely written notice that you are revoking your proxy to our Corporate Secretary at 40 Speen Street, Suite 102, Framingham, Massachusetts 01701.
- You may attend the Annual Meeting and vote in person. Simply attending the meeting will not, by itself, revoke your proxy.

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

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

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

When are stockholder proposals and director nominations due for next year's Annual Meeting?

To be considered for inclusion in next year's proxy materials, your proposal must be submitted in writing by July 9, 2020 to our Corporate Secretary at 40 Speen Street, Suite 102, Framingham, Massachusetts 01701. However, if the date of the 2020 Annual Meeting of Stockholders is changed by more than 30 days from the date of the 2019 Annual Meeting, then the deadline will be a reasonable time before the Company begins to print and mail its proxy materials for the 2020 Annual Meeting. Upon determination by the Company that the date of the 2020 Annual Meeting will be advanced or delayed by more than 30 days from the date of the 2019 Annual Meeting, the Company will disclose that change in the earliest possible Quarterly Report on Form 10-Q, or if impracticable, any means reasonably calculated to inform stockholders. If you wish to submit a proposal (including a director nomination) at the meeting that is not to be included in next year's proxy materials, you must do so by giving timely notice in writing to our Corporate Secretary and otherwise comply with the provisions of our Amended and Restated Bylaws. To be timely, our Amended and Restated Bylaws provide that we must have received the notice not less than 90 days or more than 120 days prior to the one-year anniversary of the date of the previous year's Annual Meeting of Stockholders (the "Anniversary"); provided, however, that in the event that the date of next year's Annual Meeting is more than 30 days before or more than 30 days after the Anniversary, notice must be delivered not earlier than the close of business on the 120th day prior to next year's Annual Meeting and not later than the close of business on the later of (i) the 90th day prior to next year's Annual Meeting or (ii) the close of business on the 10th day following the day on which public announcement of the date of next year's Annual Meeting is first made by us. You are advised to review our Amended and Restated Bylaws, which contain additional requirements about advance notice of stockholder proposals and director nominations.

How are votes counted?

Votes will be counted by the inspector of election appointed for the meeting, who will separately count, for the proposal to elect directors, votes "FOR," "WITHHOLD" and broker non-votes and, with respect to other proposals, votes "FOR" and "AGAINST," abstentions and, if applicable, broker non-votes. Broker non-votes have no effect and will not be counted towards the vote total for any proposal.

What are "broker non-votes"?

If you are the beneficial owner of shares held in "street name," your shares may constitute "broker non-votes." Broker non-votes occur when a beneficial owner of shares held in "street name" does not give instructions to the broker, bank or other nominee holding the shares as to how to vote. Generally, if shares are held in street name, the beneficial owner of the shares is entitled to give voting instructions to the broker, bank or other nominee holding the shares. If the beneficial owner does not provide voting instructions, the broker, bank or other nominee can still vote the shares with respect to matters that are considered to be "routine," but cannot vote the shares with respect to "non-routine" matters. Under applicable rules that generally apply to all brokers, bank or other nominees, on voting matters characterized as "routine," firms have the discretionary authority to vote shares for which their customers do not provide voting instructions. On non-routine proposals, such "uninstructed shares" may not be voted by such firms. Only Proposal 2 is considered a "routine" matter for this purpose and brokers, banks or other nominees generally have discretionary voting power with respect to such proposal. Proposal 1, Proposal 3 and Proposal 4 are not considered a routine matter, and without your instructions, your broker cannot vote your shares for the proposal.

How many votes are needed to approve each proposal?

For the election of directors, the eight nominees receiving the most “FOR” votes from the holders of shares present in person or represented by proxy and entitled to vote on the election of directors will be elected. Only votes “FOR” will affect the outcome. Broker non-votes will have no effect.

For Proposal 2, an affirmative “FOR” vote of a majority of the shares cast affirmatively or negatively for this proposal is required to ratify the selection of Marcum LLP as the Company’s independent registered public accounting firm for fiscal year ending December 31, 2019. If you mark your proxy to “ABSTAIN” from voting, it will have no effect. Broker non-votes will also have no effect.

For Proposal 3, an affirmative “FOR” vote of a majority of the shares cast affirmatively or negatively for this proposal is required to approve, on an advisory, non-binding basis, the compensation of our named executive officers. If you mark your proxy to “ABSTAIN” from voting, it will have no effect. Broker non-votes will also have no effect. Because the vote on the Say on Pay proposal is advisory, it will not be binding on the Board of Directors or the Company. However, the Compensation Committee will take into account the outcome of the Say on Pay vote when considering future executive compensation arrangements.

For Proposal 4, an affirmative “FOR” vote of a majority of the shares cast affirmatively or negatively for this proposal is required to approve the Company’s Amended and Restated Equity Incentive Plan, in order to, among other things, increase the aggregate number of shares of common stock authorized under the plan by 750,000 shares. If you mark your proxy to “ABSTAIN” from voting, it will have no effect. Broker non-votes will also have no effect.

What is the quorum requirement?

A quorum of stockholders is necessary to hold a valid meeting. A quorum will be present if stockholders holding at least fifty percent (50%) of the outstanding shares entitled to vote are present at the Annual Meeting in person or represented by proxy. On the record date, there were 5,755,141 shares outstanding and entitled to vote. **Thus, the holders of 2,877,571 shares must be present in person or represented by proxy at the meeting to have a quorum.**

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

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

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

What proxy materials are available on the internet?

The proxy statement, the Notice of the Annual Meeting and our Annual Report on Form 10-K for the fiscal year ended December 31, 2018, as amended (the “Annual Report to Stockholders”) are available at www.xeneticbio.com.

PROPOSAL 1

ELECTION OF DIRECTORS

Our Board of Directors (“Board”) consists of eight directors. There are eight nominees for director this year. Each director to be elected and qualified will hold office until the next annual meeting of stockholders and until his or her successor is elected, or, if sooner, until the director’s death, resignation or removal. Each of the nominees listed below is currently a director of the Company who was previously elected by the stockholders, except for Dr. Grigory G. Borisenko who was appointed by the Board in September of 2019 to fill the vacancy upon the resignation from the Board of Mr. Roman Knyazev. It is our policy to encourage nominees for directors to attend the Annual Meeting. At the Company’s last annual meeting of stockholders, which was held in November of 2018, five of our Board members attended the meeting and were available to be heard by those present at the meeting.

Directors are elected by a plurality of the votes of the holders of shares present in person or represented by proxy and entitled to vote on the election of directors. Accordingly, the eight nominees receiving the highest number of affirmative votes will be elected. Shares represented by executed proxies will be voted, if authority to do so is not withheld, for the election of the eight nominees named below. If any nominee becomes unavailable for election as a result of an unexpected occurrence, your shares will be voted for the election of a substitute nominee proposed by us. Each person nominated for election has agreed to serve if elected. Our management has no reason to believe that any nominee will be unable to serve.

Nominees

The following is a brief biography of each nominee for director and a discussion of the specific experience, qualifications, attributes or skills of each nominee that led the Nominating and Corporate Governance Committee to recommend that person as a nominee for director, as of the date of this proxy statement.

Name	Age	Position
Mr. Jeffrey Eisenberg	53	Chief Executive Officer and Director
Dr. Grigory Borisenko	50	Director
Dr. James Callaway	63	Director ^{(1), (2), (3)}
Mr. Firdaus Jal Dastoor, FCS	67	Director ^{(1), (2)}
Dr. Dmitry Genkin	50	Director
Dr. Roger Kornberg	72	Director ⁽³⁾
Mr. Adam Logal	41	Director ^{(1),(2),(3)}
Dr. Alexey Vinogradov	49	Director

⁽¹⁾ Member of the Audit Committee

⁽²⁾ Member of the Compensation Committee

⁽³⁾ Member of the Nominating and Corporate Governance Committee

Jeffrey F. Eisenberg was appointed our Chief Executive Officer on October 26, 2017, after serving as Chief Operating Officer since December 2, 2016, and has served as a member of our Board since July 2016. Mr. Eisenberg previously worked at Noven Pharmaceuticals, Inc. (“Noven”), a subsidiary of Hisamitsu Pharmaceutical, Inc., where he held various positions of increasing responsibility, most recently serving from 2009-2016 as Noven’s president, chief executive officer and as a member of its board of directors. Mr. Eisenberg previously served as an independent director for Mabvax Therapeutics Holdings, Inc. (“Mabvax”) from February 2016 until his resignation in July 2018. In September 2018, a derivative lawsuit was brought against certain then current and former directors of Mabvax alleging breach of fiduciary duty. In March 2019, the derivative action was stayed as a result of defendant Mabvax initiating bankruptcy proceedings. Mr. Eisenberg obtained his J.D. at Columbia University Law School and a B.S. in Economics from the Wharton School, University of Pennsylvania. We believe Mr. Eisenberg’s significant life science executive experience and leadership experience in the areas of R&D, operations, manufacturing/quality, business development, strategic partnering, product development, commercialization, and human resources provides him with the appropriate set of skills to serve as a member of our Board.

Grigory Borisenko, PhD, was appointed to the Board in September 2019. Mr. Borisenko is the Investment Director of RUSNANO Management Company LLC, a Venture Capital & Private Equity management company in Russia. Mr. Borisenko has over 20 years of scientific, management and strategic experience in the life science field. Mr. Borisenko has specialized in investment projects in life science since 2012, and from 2009 through 2012, he was a head of the pharmaceutical sector of the Department of Science and Technology Expertise at the state corporation, RUSNANO. Mr. Borisenko currently serves on the Board of Directors for two biotechnology companies, Atea Pharmaceuticals, Inc. and Adastra Pharmaceuticals, Inc., and from 2011 to 2014, served on the board of directors of Nearmedic Pharm LLC. Prior to his investment career, Mr. Borisenko held academic appointments with the University of Pittsburgh, Russian State Medical University and Institute of Medico-Biological Problems. He has co-authored over 50 peer-reviewed publications in leading biochemistry and cell biology journals. Mr. Borisenko received his M.S. and Ph.D. from the Russian State Medical University, and is a recipient of Fogarty International and International Fellowship Awards from NIH. We believe Mr. Borisenko’s extensive background in the life sciences and biotechnology industries provide him with the appropriate set of skills to serve as a member of our Board.

James Callaway was appointed to the Board on August 14, 2017. Dr. Callaway has over 30 years of experience in the execution of product development operations for biotherapeutics and currently serves as CEO of KalGene, a privately-held preclinical company focused on delivery of a proprietary development candidate to alter the course of Alzheimer’s Disease. Dr. Callaway is a seasoned CEO within the venture-backed biotech community and over the course of his career he has built and operated several companies, transforming each from research companies to clinical stage operating entities. Since 2016, he has also served as a Corporate Strategy Consultant at Callaway Innovations. From 2012 until 2016, Dr. Callaway was President and Chief Executive Officer of ArmaGen, Inc. and from 2008 until 2012, served as President and CEO of CEBIX, Inc. Prior to these efforts, Dr. Callaway held multiple senior leadership positions at Elan Pharmaceuticals, including simultaneously acting as Head of Development and overseeing the complex partnership with Wyeth Pharmaceuticals in the Alzheimer’s disease immunotherapy program. He has developed antibodies for a wide-range of therapeutic applications over the past two decades, including treatments of multiple sclerosis (Tysabri®: pharmaceutical development), Alzheimer’s disease (bapineuzumab: Program Executive), and blood-brain barrier transport, and has worked with the United States Food and Drug Administration on multiple orphan drug development programs. We believe Dr. Callaway’s significant life sciences executive, leadership and strategic experience in the area of biotherapeutics provides him with the appropriate set of skills to serve as a member of our Board.

Firdaus Jal Dastoor, FCS, was initially appointed as a member of our Board in January 2014 pursuant to terms of the agreement of our acquisition of Xenetic U.K. He has been employed by the Cyrus Poonawalla Group, a conglomerate in India with interests in horse racing and breeding, biotech, engineering and hotels, in business development strategies and operational roles since October 1981. Mr. Dastoor is currently a Group Director in charge of Finance and Corporate Affairs and Company Secretary of the Serum Institute of India Private Limited at the Cyrus Poonawalla Group, one of our significant stockholders. He is a Fellow Member of The Institute of Company Secretaries of India since 1990. Mr. Dastoor is on the board of several private companies operating in the fields of engineering products, life sciences and biotech, international trade, financial services and quality standards certifications. Mr. Dastoor received a B.A. in Commerce from the University of Poona. We believe Mr. Dastoor's knowledge of investments in the life sciences and biotechnology industries, and his finance and business development background provide him with the appropriate set of skills to serve as a member of our Board.

Dmitry Genkin was appointed to the Board on August 14, 2017. Dr. Genkin previously served on the Company's Board of Directors from 2004-2016. He has the Russian equivalent of an MD in Internal Therapy and studied drug delivery under Professor Gregory Gregoriadis at The School of Pharmacy, University of London in 1992, as well as the Department of Clinical Pharmacology at Karolinska Hospital, Stockholm from 1992 until 1993. Since 2005, Dr. Genkin has served as Executive Chairman of PJSC Pharmsynthez, a public company and Xenetic's majority stockholder. Prior to that time, Dr. Genkin headed a number of Russia's largest pharmaceutical companies including Pharmavit, which had 27% of the Russian pharmaceutical market. In 1998, he was awarded the silver medal by the Russian Natural Science Academy. We believe Dr. Genkin's significant life sciences, biotechnology and international background provide him with the appropriate set of skills to serve as a member of our Board.

Dr. Roger Kornberg has served as a member of our Board since February 2016. Dr. Kornberg is a member of the U.S. National Academy of Sciences and the Winzer Professor of Medicine in the Department of Structural Biology at Stanford University. He earned his B.S. in chemistry from Harvard University in 1967 and his Ph.D. in chemical physics from Stanford in 1972. He became a postdoctoral fellow at the Laboratory of Molecular Biology in Cambridge, England and then an assistant professor of biological chemistry at Harvard Medical School in 1976, before moving to his present position as professor of structural biology at Stanford Medical School in 1978. In 2006, Dr. Kornberg was awarded the Nobel Prize in Chemistry in recognition for his studies of the molecular basis of Eukaryotic Transcription, the process by which DNA is copied to RNA. Dr. Kornberg is also the recipient of several awards, including the 2001 Welch Prize, the highest award granted in the field of chemistry in the United States, and the 2002 Leopold Mayer Prize, the highest award granted in the field of biomedical sciences from the French Academy of Sciences. We believe Dr. Kornberg's prior experience serving on the boards of directors of large organizations as well as his scientific background provides him with the appropriate set of skills to serve as a member of our Board.

Adam Logal was appointed to the Board in August 2017. Mr. Logal has over 16 years of experience in the biopharmaceuticals industry. Since April 2014, Mr. Logal has served as Senior Vice President, Chief Financial Officer, Chief Accounting Officer and Treasurer of OPKO Health, Inc. and from March 2007 until April 2014 served as OPKO's Vice President of Finance, Chief Accounting Officer and Treasurer. Mr. Logal served as a director of VBI Vaccines, Inc., a publicly-traded company, from May 2015 through October 2018 and served as its Audit Committee Chairman. Prior to joining OPKO, Mr. Logal served in various financial management roles at Nabi Biopharmaceuticals, a commercial stage biopharmaceutical company. Mr. Logal is a strategic finance executive with extensive experience in SEC compliance and reporting, domestic and international finance, strategic planning, cash flow management, budgeting, taxation, treasury and business development. We believe Mr. Logal's extensive financial experience with public companies in the life sciences industry provides him with appropriate set of skills to serve as a member of our Board.

Alexey Vinogradov has served as a member of our Board since July 2019. Dr. Vinogradov currently serves as Business Development Director and Operations Director at Cantreva LLC, a Russian company with extensive specialized experience of delivering services in the field of renewable energy (solar, wind, hydro power), performing works on a “turnkey” basis since September 2017. Dr. Vinogradov previously served as General Manager at Togas Middle East LLC in Dubai, UAE from May 2015 to May 2017. Prior to that, Dr. Vinogradov served as branch manager at Togas Group LLC in Russia from March 2012 to November 2016. We believe Dr. Vinogradov’s experience in business communication, international business development and financial analytics provides him with the appropriate set of skills to serve as a member of our Board.

There are no family relationships among any of our directors and executive officers and, to the best of our knowledge, none of our directors or executive officers has, during the past ten years, been involved in any legal proceedings which are required to be disclosed pursuant to the rules and regulations of the SEC.

**THE BOARD OF DIRECTORS RECOMMENDS
A VOTE IN FAVOR OF EACH NAMED NOMINEE.**

INFORMATION REGARDING THE BOARD OF DIRECTORS AND CORPORATE GOVERNANCE

During fiscal year 2018, the following served as a member of the Company’s Board of Directors: Jeffrey Eisenberg, Firdaus Jal Dastoor, Roman Knyazev, Roger Kornberg, Dmitry Genkin, James Callaway, and Adam Logal. On September 25, 2019, Roman Knyazev resigned as a member of the Board. Drs. Alexey Vinogradov and Grigory G. Borisenko were appointed to the Board in July 2019 and September 2019, respectively. Directors shall hold office for a one-year term or until their successors have been duly elected and qualified. Vacancies on the Board resulting from death, resignation, disqualification, removal, or other causes can be filled by the affirmative vote of a majority of the directors then in office. Any director so elected, shall hold office for the remainder of the full term of the director for which the vacancy was created or occurred and until such director’s successor shall have been duly elected and qualified. Except for Drs. Grigory G. Borisenko and Alexey Vinogradov, each of the eight current directors was previously elected at the Company’s last annual meeting of stockholders to hold office until the next annual meeting of stockholders and until his or her successor is elected, or, if sooner, until the director’s death, resignation or removal.

Independence of The Board of Directors

As required under the NASDAQ Stock Market (“NASDAQ”) listing standards, a majority of the members of a listed company’s board of directors must qualify as “independent,” as affirmatively determined by the Board of Directors. The Board consults with advisors to ensure that the Board’s determinations are consistent with relevant securities and other laws and regulations regarding the definition of “independent,” including those set forth in pertinent listing standards of NASDAQ, as in effect from time to time.

Consistent with these considerations, after review of all relevant identified transactions or relationships between each director, or any of his or her family members, and the Company, its senior management and its independent auditors, the Board affirmatively determined that the following directors were independent directors within the meaning of the applicable NASDAQ listing standards for the period during which they served as a member of the Board during fiscal year 2018: Dr. Callaway, Mr. Dastoor, Dr. Kornberg and Mr. Logal. In addition, the Board also determined that Drs. Alexey Vinogradov and Grigory G. Borisenko were independent under applicable law and the listing standards of NASDAQ upon the appointment of each to the Board in July 2019 and September 2019, respectively. In making the independence determinations, the Board considered a number of factors and relationships, including without limitation (i) Dr. Grigory Borisenko’s employment as the Investment Director of Rusnano LLC, an entity affiliated with Pharmsynthez, the Company’s largest stockholder with ownership of approximately 8% of the Company’s issued and outstanding common stock, and (ii) the Company’s transactions with Hesperix SA and Dr. Alexey Vinogradov’s former status as a significant shareholder of Hesperix SA.

During fiscal year 2018, all members of our Audit Committee, Nominating and Corporate Governance Committee, and Compensation Committee were independent (as independence is currently defined in Rule 5605 of the NASDAQ listing standards).

Board Leadership Structure

Prior to August 2017, we combined the positions of Chief Executive Officer and Board Chair. As of August 2017, we separated the roles of Chief Executive Officer and Board Chair in recognition of the differences between the two roles. The Board of Directors is currently chaired by independent director, Adam Logal, and our current Chief Executive Officer, Jeffrey Eisenberg, is our only employee-director. The Chief Executive Officer is responsible for setting the strategic direction for the Company and the day to day leadership and performance of the Company, while the Board Chair is responsible for leading the Board in the execution of its fiduciary duties. The Board Chair presides over meetings of the full Board. While we recognize that different board leadership structures may be appropriate for companies in different situations, we believe our current leadership structure is the optimal structure for the Company at this time.

Role of the Board in Risk Oversight

Our management is principally responsible for defining the various risks facing the Company, formulating risk management policies and procedures, and managing our risk exposures on a day-to-day basis. The Board's principal responsibility in this area is to ensure that sufficient resources, with appropriate technical and managerial skills, are provided throughout the Company to identify, assess and facilitate processes and practices to address material risk and to monitor our risk management processes by informing itself concerning our material risks and evaluating whether management has reasonable controls in place to address the material risks. The involvement of the Board in reviewing our business strategy is an integral aspect of the Board's assessment of management's tolerance for risk and its determination of what constitutes an appropriate level of risk for the Company.

Meetings of The Board of Directors

The Board of Directors met five times during the last fiscal year. Each Board member attended 75% or more of the aggregate number of meetings of the Board and of the committees on which she or he served that were held during the portion of the last fiscal year for which she or he was a director or committee member, except as follows: Dr. Kornberg attended 40% of the Board meetings during 2018. At the Company's last annual meeting of stockholders, which was held in November of 2018, six of our Board members attended the meeting and were available to be heard by those present at the meeting.

INFORMATION REGARDING COMMITTEES OF THE BOARD OF DIRECTORS

The Board has three standing committees: an Audit Committee, a Compensation Committee, and a Nominating and Corporate Governance Committee. During 2018, the Board also had two special committees: an Expense Management and Financing Oversight Committee and a Strategic Alternatives Committee, each of which was disbanded in September of 2019. The Company has adopted charters to govern the conduct, authority and responsibilities of each of the Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee.

The following table provides membership and meeting information for fiscal 2018 for each of the standing Board committees:

Name	Audit	Compensation	Nominating and Corporate Governance
Jeffrey Eisenberg			
James Callaway	X	X*	X*
Firdaus Jal Dastoor, FCS	X	X	
Roman Knyazev ⁽¹⁾			
Roger Kornberg			X
Dmitry Genkin			
Adam Logal	X*	X	X
Total meetings in 2018 fiscal year	5	1	1
* Committee Chairperson			

⁽¹⁾ On September 25, 2019, Roman Knyazev resigned as a member of the Board of Directors.

Below is a description of each standing committee of the Board of Directors. Each of the committees has authority to engage legal counsel or other experts or consultants, as it deems appropriate, to carry out its responsibilities. The Board of Directors has determined that each member, during the portion of the relevant fiscal year for which such member has served, of each committee met or meets, as applicable, the applicable NASDAQ rules and regulations regarding “independence” and each member was or is, as applicable, free of any relationship that would impair his or her individual exercise of independent judgment with regard to the Company.

Audit Committee

The Audit Committee of the Board of Directors was established by the Board in accordance with Section 3(a)(58)(A) of the Exchange Act, to oversee the Company’s corporate accounting and financial reporting processes and audits of its financial statements. For this purpose, the Audit Committee performs several functions. The Audit Committee evaluates the performance of and assesses the qualifications of the independent auditors; determines and approves the engagement of the independent auditors; determines whether to retain or terminate the existing independent auditors or to appoint and engage new independent auditors; reviews and approves the retention of the independent auditors to perform any proposed permissible non-audit services; monitors the rotation of partners of the independent auditors on the Company’s audit engagement team as required by law; reviews and approves or rejects transactions between the Company and any related persons; confers with management and the independent auditors regarding the effectiveness of internal control over financial reporting; establishes procedures, as required under applicable law, for the receipt, retention and treatment of complaints received by the Company regarding accounting, internal accounting controls or auditing matters and the confidential and anonymous submission by employees of concerns regarding questionable accounting or auditing matters; and meets to review the Company’s annual audited financial statements and quarterly financial statements with management and the independent auditor, including a review of the Company’s disclosures under the “Management’s Discussion and Analysis of Financial Condition and Results of Operations” section of the Company’s Annual Report to Stockholders on Form 10-K.

For the fiscal year 2018, the Audit Committee was composed of three directors: Mr. Dastoor, Dr. Callaway, and Mr. Logal (chair). The Audit Committee met five times during fiscal year 2018. The Board has adopted a written Audit Committee charter that is available to stockholders on the Company's website at <http://ir.xeneticbio.com/>.

The Board of Directors reviews the NASDAQ listing standards definition of independence for Audit Committee members on an annual basis and has determined that all current members of our Audit Committee are independent (as independence is currently defined in Rule 5605(c)(2)(A)(i) and (ii) of the NASDAQ listing standards).

The Board of Directors has also determined that Mr. Logal qualifies as an "audit committee financial expert," as defined in applicable SEC rules. The Board made a qualitative assessment of Mr. Logal's level of knowledge and experience based on a number of factors, including his formal education and experience as a chief financial officer.

Report of the Audit Committee of the Board of Directors

The Audit Committee has reviewed and discussed the audited financial statements for the fiscal year ended December 31, 2018 with management of the Company. The Audit Committee has discussed with the independent registered public accounting firm the matters required to be discussed by Auditing Standard No. 1301, *Communications with Audit Committees*, as adopted by the Public Company Accounting Oversight Board ("PCAOB"). The Audit Committee has also received the written disclosures and the letter from the independent registered public accounting firm required by applicable requirements of the PCAOB regarding the independent accountants' communications with the audit committee concerning independence, and has discussed with the independent registered public accounting firm the accounting firm's independence. Based on the foregoing, the Audit Committee has recommended to the Board of Directors that the audited financial statements be included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2018.

Mr. Adam Logal, Chairman
Dr. James E. Callaway
Mr. Firdaus Jal Dastoor, FCS

Compensation Committee

For the fiscal year 2018, the Compensation Committee was composed of three directors: Dr. Callaway (chair), Mr. Dastoor and Mr. Logal. All current members of our Compensation Committee are independent (as independence is currently defined in Rule 5605(d)(2) of the NASDAQ listing standards). The Compensation Committee met once during 2018 and acted on occasions by unanimous written consent. The Board has adopted a written Compensation Committee charter that is available to stockholders on the Company's website at <http://ir.xeneticbio.com/>.

The Compensation Committee of the Board acts on behalf of the Board to review, recommend for adoption and oversee our compensation strategy, policies, plans and programs, including:

- establishment of corporate and individual performance objectives relevant to the compensation of our executive officers and directors and evaluation of performance in light of these stated objectives;
- review and approval of the compensation and other terms of employment or service of our Chief Executive Officer; and
- administration of our equity compensation plans, pension and profit-sharing plans, deferred compensation plans and other similar plan and programs.

The Compensation Committee determines salaries, incentives and other forms of compensation for the Chief Executive Officer and our executive officers and reviews and makes recommendations to the Board with respect to director compensation. The Compensation Committee meets without the presence of executive officers when approving or deliberating on executive officer compensation, but may invite the Chief Executive Officer to be present during the approval of, or deliberations with respect to, other executive officer compensation. The Compensation Committee reviews and approves the terms of offer letters, employment agreements, severance agreements, change-in-control agreements, indemnification agreements and other material agreements between us and our executive officers. In addition, the Compensation Committee administers our stock incentive compensation and equity-based plans.

Compensation Committee Interlocks and Insider Participation

None of the individuals serving on the Compensation Committee during fiscal year 2018 were at any time during fiscal year 2018, an officer or employee of the Company and none have served as a former officer of the Company. See “*Certain Related-Person Transactions*” below for related party transactions involving Mr. Dastoor. None of our current executive officers has served as a member of the board of directors, or as a member of the compensation or similar committee, of any entity that has one or more executive officers who served on our board of directors or compensation committee during the year ended December 31, 2018.

Nominating and Corporate Governance Committee

The Nominating and Corporate Governance Committee of the Board is responsible for identifying, reviewing and evaluating candidates to serve as directors of the Company (consistent with criteria approved by the Board), reviewing and evaluating incumbent directors, recommending to the Board for selection candidates for election to the Board of Directors, making recommendations to the Board regarding the membership of the committees of the Board, and developing a set of corporate governance principles for the Company.

For the fiscal year 2018, the Nominating and Corporate Governance Committee was composed of three directors: Dr. Callaway (chair), Mr. Logal and Dr. Kornberg. All members of the Nominating and Corporate Governance Committee are independent (as independence is currently defined in Rule 5605(a)(2) of the NASDAQ listing standards). The Nominating and Corporate Governance Committee met once during 2018. The Board has adopted a written Nominating and Corporate Governance Committee charter that is available to stockholders on the Company’s website at <http://ir.xeneticbio.com/>.

The Nominating and Corporate Governance Committee believes that candidates for director should have certain minimum qualifications, including the ability to read and understand basic financial statements, being over 21 years of age and having the highest personal integrity and ethics. The Nominating and Corporate Governance Committee also intends to consider such factors as possessing relevant expertise upon which to be able to offer advice and guidance to management, having sufficient time to devote to the affairs of the Company, demonstrated excellence in his or her field, having the ability to exercise sound business judgment and having the commitment to rigorously represent the long-term interests of the Company's stockholders. However, the Nominating and Corporate Governance Committee retains the right to modify these qualifications from time to time. Candidates for director nominees are reviewed in the context of the current composition of the Board, the operating requirements of the Company and the long-term interests of stockholders. In conducting this assessment, the Nominating and Corporate Governance Committee typically considers diversity, age, skills and such other factors as it deems appropriate, given the current needs of the Board and the Company, to maintain a balance of knowledge, experience and capability.

While we do not have a formal diversity policy with respect to Board composition, the Board believes it is important for the Board to have diversity of knowledge base, professional experience and skills, and the Nominating and Corporate Governance Committee takes these qualities into account when considering director nominees for recommendation to the Board.

The Nominating and Corporate Governance Committee will consider director candidates recommended by stockholders. A stockholder who wishes to suggest a prospective nominee for the Board of Directors should notify the Company's Secretary or any member of the Nominating and Corporate Governance Committee in writing and include any supporting material the stockholder considers appropriate. In addition, the Company's Amended and Restated Bylaws contain provisions addressing the process by which a stockholder may nominate an individual to stand for election to the Board of Directors at its Annual Meeting of Stockholders. In order to nominate a candidate for director, a stockholder must give timely notice in writing to the Company's Secretary and otherwise comply with the provisions of our Amended and Restated Bylaws. To be timely, our Amended and Restated Bylaws provide that we must have received the notice not less than 90 days or more than 120 days prior to the one-year anniversary of the date of the previous year's Annual Meeting of Stockholders (the "Anniversary"); provided, however, that in the event that the date of next year's Annual Meeting is more than 30 days before or more than 30 days after the Anniversary, notice must be delivered not earlier than the close of business on the 120th day prior to next year's Annual Meeting and not later than the close of business on the later of (i) the 90th day prior next year's Annual Meeting or (ii) the close of business on the 10th day following the day on which public announcement of the date of next year's Annual Meeting is first made by us. Information required by our Amended and Restated Bylaws to be in the notice includes: (A) all information relating to such person that is required to be disclosed in solicitations of proxies for election of directors, or is otherwise required, in each case, pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended (including such person's written consent to being named in the proxy statement as a nominee and to serving as a director, if elected); (B) a description of all direct and indirect compensation and other material monetary agreements, arrangements and understandings during the past three (3) years, and any other material relationships, between or among such stockholder, the beneficial owner, if any, on whose behalf any such proposal or nomination is being made, and their respective affiliates and associates, on the one hand, and each proposed nominee, and his or her respective affiliates and associates, on the other hand, including, without limitation, all information that would be required to be disclosed pursuant to Item 404 of Regulation S-K promulgated under the Securities Act of 1933, as amended, if such stockholder, such beneficial owner, or any affiliate or associate thereof, were the "registrant" for purposes of such rule and the nominee were a director or executive officer of such registrant; (C) to the extent known by the stockholder, the name and address of any other security holder of the Company who owns, beneficially or of record, any securities of the Company and who supports any nominee proposed by such stockholder; and (D) a questionnaire and a representation and agreement, completed and signed by such person, as required by our Amended and Restated Bylaws.

Stockholder nominations must be made in accordance with the procedures outlined in, and include the information required by, our Amended and Restated Bylaws and must be addressed to our Corporate Secretary, c/o Xenetic Biosciences, Inc., 40 Speen Street, Suite 102, Framingham, Massachusetts 01701. You can obtain a copy of our Amended and Restated Bylaws by writing to the Corporate Secretary at this address.

Our Nominating and Corporate Governance Committee recommended to the Board that it nominate each of Grigory G. Borisenko, James E. Callaway, Firdaus Jal Dastoor, Jeffrey F. Eisenberg, Dmitry Genkin, Roger Kornberg, Adam Logal and Alexey Vinogradov for election at the 2019 Annual Meeting.

Stockholder Communications With The Board Of Directors

Historically, we have not provided a formal process related to stockholder communications with the Board. All communications to our Board, our Board committees or any individual director, must be in writing and addressed to our Corporate Secretary, c/o Xenetic Biosciences, Inc., 40 Speen Street, Suite 102, Framingham, Massachusetts 01701. All communications will be reviewed by the Secretary and, unless otherwise indicated in such communication, submitted to the Board or an individual director, as appropriate.

Code of Business Conduct and Ethics

We have adopted the Xenetic Biosciences, Inc. Code of Business Conduct and Ethics that applies to all of our employees, officers and directors, including our principal executive officer, principal financial officer and principal accounting officer. The Code of Business Conduct and Ethics is available on our website, www.xeneticbio.com, under “Investors” at “Corporate Governance.” If we make any substantive amendments to the Code of Business Conduct and Ethics or grant any waiver from a provision of the Code of Business Conduct and Ethics to any executive officer or director, we intend to promptly disclose the nature of the amendment or waiver on our website, to the extent required by the applicable rules and exchange requirements.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table and footnotes set forth certain information known to us regarding beneficial ownership of our capital stock as of October 25, 2019 for:

- each person known by us to be the beneficial owner of more than 5% of our capital stock;
- our named executive officers;
- each of our directors; and
- all executive officers and directors as a group.

The number of shares beneficially owned by each entity, person, director or executive officer is determined in accordance with the rules of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. Under such rules, beneficial ownership includes any shares over which the individual has sole or shared voting power or investment power as well as any shares that the individual has the right to acquire within 60 days through the exercise of any stock option, warrants or other rights. Except as otherwise indicated, and subject to applicable community property laws, the persons named in the table have sole voting and investment power with respect to all shares of common stock held by that person or entity.

The percentage of shares beneficially owned is computed on the basis of 5,755,141 shares of our common stock outstanding as of October 25, 2019, on an as-converted basis. Shares of our common stock that a person has the right to acquire within 60 days after October 25, 2019 are deemed outstanding for purposes of computing the percentage ownership of the person or entity holding such rights, but are not deemed outstanding for purposes of computing the percentage ownership of any other person, except with respect to the percentage ownership of all directors and executive officers as a group. Unless otherwise indicated below, the address for each beneficial owner listed is c/o Xenetic Biosciences, Inc., at 40 Speen Street, Suite 102, Framingham, Massachusetts 01701.

Name of Beneficial Owner	Number of Shares Beneficially Owned ⁽¹⁾	Percentage Beneficially Owned
Named Executive Officers and Directors		
Jeffrey Eisenberg	28,890 ⁽²⁾	*
James Parslow	9,723 ⁽³⁾	*
Dr. Curtis Lockshin	12,199 ⁽⁴⁾	*
Dr. Grigory Borisenko ⁽⁵⁾	—	*
Dr. James Callaway	4,168 ⁽⁶⁾	*
Firdaus Jal Dastoor	11,996 ⁽⁷⁾	*
Dr. Dmitry Genkin ⁽⁸⁾	99,285 ⁽⁹⁾	1.7%
Dr. Roger Kornberg	6,252 ⁽¹⁰⁾	*
Adam Logal	4,168 ⁽¹¹⁾	*
Dr. Alexey Vinogradov	186,781 ⁽¹²⁾	3.3%
All executive officers and directors as a group (9 persons)	363,462 ⁽¹³⁾	6.2%
5% Current Stockholders		
PJSC Pharmsynthez ^{(5) (8)}	986,754 ⁽¹⁴⁾	15.7%
Sabby Volatility Warrant Master Fund Ltd.	368,895 ⁽¹⁵⁾	6.4%

* Represents beneficial ownership of less than one percent (1%).

(1) Unless otherwise indicated below, this table is based upon corporate records, information supplied by officers, directors and, in the case of principal stockholders, information provided by our transfer agent.

(2) The total beneficial ownership consists of 26,112 shares issuable upon exercise of options that are exercisable within 60 days of October 25, 2019 and 2,778 of vested restricted stock units.

(3) The total beneficial ownership consists of 9,723 shares issuable upon exercise of options that are exercisable within 60 days of October 25, 2019.

(4) The total beneficial ownership consists of 12,199 shares issuable upon exercise of options that are exercisable within 60 days of October 25, 2019.

(5) Dr. Borisenko is employed by Rusnano LLC, an entity affiliated with Pharmsynthez.

(6) The total beneficial ownership consists of 4,168 shares issuable upon exercise of options that are exercisable within 60 days of October 25, 2019.

(7) The total beneficial ownership consists of 11,996 shares issuable upon exercise of warrants and options that are exercisable within 60 days of October 25, 2019.

(8) Dr. Genkin is the Chairman of the Board of Directors of Pharmsynthez.

(9) The total beneficial ownership consists of 93,602 shares of common stock owned directly and 5,683 shares issuable upon exercise of warrants and options that are exercisable within 60 days of October 25, 2019.

(10) The total beneficial ownership consists of 6,252 shares issuable upon exercise of options that are exercisable within 60 days of October 25, 2019.

(11) The total beneficial ownership consists of 4,168 shares issuable upon exercise of options that are exercisable within 60 days of October 25, 2019.

(12) The total beneficial ownership consists of 186,781 shares of common stock owned directly.

(13) The total beneficial ownership consists of 280,383 shares of common stock owned directly, 80,301 shares issuable upon exercise of warrants and options that are exercisable within 60 days of October 25, 2019 and 2,778 shares of restricted stock units that are vested.

(14) The total beneficial ownership consists of 447,122 shares of common stock owned directly or indirectly through SynBio, 451,244 shares issuable upon the conversion of Series B Preferred Stock and 88,388 shares issuable upon exercise of warrants that are exercisable within 60 days of October 25, 2019. SynBio is a wholly-owned subsidiary of Pharmsynthez. Pharmsynthez may be deemed to have shared voting and shared dispositive power with respect to all the shares owned by SynBio and therefore, Pharmsynthez may be deemed to be the beneficial owner of such shares. The address of PJSC Pharmsynthez is Office Center IT Park, 25 Liter ZH, Krasnogo Kursanta St., St. Petersburg, 197110, Russia.

(15) The total beneficial ownership consists of 368,895 shares of common stock owned directly by Sabby Volatility Warrant Master Fund Ltd. The address of Sabby Volatility Warrant Master Funds Ltd. is 10 Mountain View Road, Suite 205, Upper Saddle River NJ 07458.

SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act requires our directors and executive officers, and persons who own more than ten percent of a registered class of our equity securities, to file with the SEC initial reports of ownership and reports of changes in ownership of our ordinary shares and other equity securities. Such persons are required by SEC regulations to furnish us with copies of all Section 16(a) forms they file.

To our knowledge, based solely on a review of the copies of such reports furnished to us and written representations that no other reports were required, during the fiscal year ended December 31, 2018, we believe that all Section 16(a) filing requirements applicable to our executive officers, directors and greater than 10% beneficial owners were complied with, except that one report, covering an aggregate of one transaction, was filed late by Dr. Dmitry Genkin.

PROPOSAL 2

RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Audit Committee of the Board has selected Marcum LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2019 and has further directed that management submit the selection of its independent registered public accounting firm for ratification by the stockholders at the Annual Meeting. Marcum LLP has audited our financial statements since 2015. Representatives of Marcum LLP are expected to be present at the Annual Meeting. They will have an opportunity to make a statement if they so desire and will be available to respond to appropriate questions.

Neither the Company's Amended and Restated Bylaws nor other governing documents or law require stockholder ratification of the selection of Marcum LLP as the Company's independent registered public accounting firm. However, the Audit Committee of the Board is submitting the selection of Marcum LLP to the stockholders for ratification as a matter of good corporate practice. If the stockholders fail to ratify the selection, the Audit Committee of the Board will reconsider whether or not to retain that firm. Even if the selection is ratified, the Audit Committee of the Board in its discretion may direct the appointment of different independent auditors at any time during the year if they determine that such a change would be in the best interests of the Company and its stockholders.

The affirmative vote of the holders of a majority of the shares present in person or represented by proxy and entitled to vote on the matter at the Annual Meeting will be required to ratify the selection of Marcum LLP.

Principal Accountant Fees and Services

The following table represents aggregate fees billed to the Company for the fiscal years ended December 31, 2018 and December 31, 2017, by Marcum LLP, the Company's principal accountant.

	2018	2017
Audit Fees	\$ 162,374	\$ 167,824
Audit-Related Fees	9,766	8,005
Tax Fees	-	-
All Other Fees	-	-
	<u>\$ 172,140</u>	<u>\$ 175,829</u>

Audit Fees

Audit fees include the total fees incurred in connection with the audit of our annual consolidated financial statements for each of the years ended December 31, 2018 and 2017.

Audit-Related Fees

Audit related fees during the year ended December 31, 2018 include fees incurred in connection with our S-3 registration statement filed in September 2018. Audit-related fees during the year ended December 31, 2017 include fees incurred in connection with SEC filings related to our Amended and Restated Equity Incentive Plan.

Audit and Non-Audit Services Pre-Approval Policy

The Audit Committee pre-approves all audit and non-audit accounting services provided by our independent, registered accounting firm. All audit and non-audit fee services described above were pre-approved by the Audit Committee.

Pursuant to the Board of Directors' policy, to help ensure the independence of our independent registered public accounting firm, all auditing services and permitted non-audit services (including the terms thereof) to be performed for us by our independent registered public accounting firm must be pre-approved by the Audit Committee, subject to the de-minimus exceptions for non-audit services described in Section 10A(i)(1)(B) of the Securities Exchange Act of 1934, which are approved by the Audit Committee prior to the commencement of services.

Our Audit Committee approved and retained Marcum LLP to audit our consolidated financial statements for 2018. Our Audit Committee reviewed all services provided by Marcum LLP in 2018 and concluded that the services provided were compatible with maintaining its independence.

**THE BOARD OF DIRECTORS RECOMMENDS
A VOTE IN FAVOR OF PROPOSAL 2.**

EXECUTIVE OFFICERS

The following table sets forth information concerning our executive officers as of the date of this proxy statement.

Name	Age	Position
Jeffrey Eisenberg	53	Chief Executive Officer and Director
Dr. Curtis Lockshin	59	Chief Scientific Officer
James Parslow	54	Chief Financial Officer and Corporate Secretary

Jeffrey F. Eisenberg. Biographical information for Mr. Eisenberg is included above with the director biographies under the caption “Nominees.”

Dr. Curtis A. Lockshin initially joined us on a part-time basis in March 2014 as our Vice President of Research & Operations and was appointed our Chief Scientific Officer effective January 1, 2017. Dr. Lockshin has held several management positions at development and commercial stage biotechnology companies, with experience including discovery, preclinical and clinical development, as well as commercial manufacturing. Since May 2013, he has held the position of president and chief executive officer of Guardum Pharmaceuticals LLC (“Guardum”), a wholly owned subsidiary of PJSC Pharmsynthez, our controlling stockholder, a position which he continues to hold in addition to his position with us. Dr. Lockshin does not receive a salary for these services but did receive medical benefits and was covered under Guardum’s health plan through July 31, 2018. In addition, Dr. Lockshin has served as an officer or consultant of several biotechnology companies on a part-time basis, including as an officer of a series of related companies following multiple mergers beginning as chief executive officer and director of SciVac Therapeutics, Inc. and its subsidiary SciVac, Ltd., from September 2014 until July 2016. After SciVac Therapeutics, Inc.’s merger with VBI Vaccines, Inc. in July 2016, Dr. Lockshin served as chief technical officer of the merged company until December 2016. Dr. Lockshin is currently serving as a member of the board of directors of Phio Pharmaceuticals Corporation, a publicly traded clinical-stage RNAi company, a position he has held since April 2013. Dr. Lockshin has an S.B. in Life Sciences and a Ph.D. in Biological Chemistry from the Massachusetts Institute of Technology. Since April 2004, Dr. Lockshin has also served as a member of the board of directors of the Ruth K. Broad Biomedical Research Foundation, a Duke University Support Corporation that supports basic research related to Alzheimer’s disease and neurodegeneration via intramural, extramural and international grants.

James Parslow was appointed our Chief Financial Officer on April 3, 2017. Mr. Parslow most recently served as Chief Financial Officer, Treasurer and Secretary of World Energy Solutions, Inc., a publicly-traded business-to-business e-commerce company brokering energy and environmental commodities, from 2006 until its acquisition by EnerNOC, Inc. in 2015. Since 2015, he has served as an independent consultant providing interim chief financial officer services to multiple emerging technology companies. Mr. Parslow is a Certified Public Accountant with 30 years of experience serving private and public companies in the biotech, alternative energy, online auction, and high-tech manufacturing industries. He holds an A.B. in Economics and Accounting from the College of the Holy Cross and an M.B.A. with a concentration in Finance from Bentley University.

EXECUTIVE COMPENSATION

Summary Compensation Table

The following table sets forth, for the years ended December 31, 2018 and 2017, the compensation information for Jeffrey Eisenberg, our Chief Executive Officer, Dr. Curtis Lockshin, our Chief Scientific Officer, and James Parslow, our Chief Financial Officer. We refer to Messrs. Eisenberg, Lockshin, and Parslow herein, collectively, as our “named executive officers.”

Name and Principal Position	Year	Salary (\$)	Bonus (\$)	Stock Awards (\$)	Option Awards ⁽¹⁾ (\$)	Non-Equity Incentive Plan Compensation (\$)	All Other Compensation (\$)	Total (\$)
Jeffrey F. Eisenberg, <i>Chief Executive Officer</i>	2018	\$ 300,000	\$ –	\$ –	\$ –	\$ –	\$ 18,333 ⁽²⁾	\$ 318,333
	2017	\$ 300,000 ⁽³⁾	\$ –	\$ 105,720	\$ 375,389	\$ –	\$ 34,381	\$ 815,490
James Parslow, <i>Chief Financial Officer</i>	2018	\$ 265,000	\$ –	\$ –	\$ –	\$ –	\$ 22,595 ⁽⁴⁾	\$ 287,595
	2017	\$ 198,750 ⁽⁵⁾	\$ –	\$ –	\$ 667,216	\$ –	\$ 24,830	\$ 890,796
Dr. Curtis Lockshin, <i>Chief Scientific Officer</i>	2018	\$ 250,000	\$ –	\$ –	\$ –	\$ –	\$ 9,584 ⁽⁶⁾	\$ 259,584
	2017	\$ 250,000 ⁽⁷⁾	\$ –	\$ –	\$ 625,316	\$ –	\$ 2,523	\$ 877,839

(1) The amounts represent the aggregate grant date fair value of stock options granted in the applicable fiscal year, computed in accordance with FASB ASC Topic 718, excluding the effect of estimated forfeitures. Assumptions used in the calculation of this amount are set forth in Note 10 to our audited consolidated financial statements included in Item 8 of the Original Filing. Mr. Eisenberg, Mr. Parslow, and Dr. Lockshin were granted options to purchase 20,835 shares, 14,584 shares and 14,584 shares of common stock, respectively, during 2017. In addition, Mr. Eisenberg was granted 4,167 restricted stock units in 2017.

(2) Includes \$18,333 for health and welfare plans.

(3) Mr. Eisenberg was appointed our Chief Operating Officer in December 2016 and Chief Executive Officer in October 2017. Mr. Eisenberg served as a director of the Company from July 2016 through November 2016. As an employee, Mr. Eisenberg no longer receives compensation for serving as a member of our Board.

(4) Includes \$22,595 for health and welfare plans.

(5) Mr. Parslow was appointed our Chief Financial Officer in April 2017.

(6) Includes \$9,584 for health and welfare plans.

(7) Dr. Lockshin was appointed our Chief Scientific Officer in January 2017.

Outstanding Equity Awards at Fiscal Year-End

The following table sets forth certain information with respect to outstanding equity awards held by our named executive officers at December 31, 2018.

Name	Option Awards				Stock Awards	
	Number of Securities Underlying Unexercised Options, Exercisable	Number of Securities Underlying Unexercised Options, Unexercisable	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested	Market Value of Shares or Units of Stock That Have Not Vested (\$)
Jeffrey F. Eisenberg	12,910 ⁽¹⁾	6,258 ⁽¹⁾	40.92	12/2/2026	–	–
	3,473 ⁽²⁾	17,362 ⁽²⁾	25.32	10/26/2027	–	–
	–	–	–	–	2,778 ⁽³⁾	\$ 70,486
James Parslow	4,862 ⁽⁴⁾	9,722 ⁽⁴⁾	54.84	4/3/2027	–	–
Curtis Lockshin	1,213 ⁽⁵⁾	–	55.08	12/31/2024	–	–
	1,263 ⁽⁶⁾	–	55.08	9/6/2025	–	–
	4,862 ⁽⁷⁾	9,722 ⁽⁷⁾	51.60	1/1/2027	–	–

⁽¹⁾ 392 shares vested 100% on the date of grant. Remainder vests one-third upon the first anniversary of the grant date, one-third of the remaining amount upon the second anniversary of the grant date and one-third of the remaining amount on the third anniversary of the grant date.

⁽²⁾ 10,417 of the options granted vest one-third upon the first anniversary of the grant date, one-third upon the second anniversary of the grant date and one-third upon the third anniversary of the grant date. 8,334 of the options granted vest upon the achievement of key clinical milestones for XBIO-101 and 2,084 of the options granted vest upon the achievement of key development milestones related to PSA.

⁽³⁾ References restricted stock units (“RSUs”) granted on October 26, 2017. Each RSU represents the right to receive one share of the Company’s common stock upon settlement, as defined. The RSUs vest one-third upon the first anniversary of the grant date, one-third upon the second anniversary of the grant date and one-third upon the third anniversary of the grant date.

⁽⁴⁾ Vests one-third upon the first anniversary of the grant date, one-third upon the second anniversary of the grant date and one-third upon the third anniversary of the grant date.

⁽⁵⁾ Vested one-third upon March 3, 2015, one-third upon March 15, 2016 and one-third upon March 15, 2017.

⁽⁶⁾ Vested one-third upon the first anniversary of the grant date, one-third upon the second anniversary of the grant date and one-third upon the third anniversary of the grant date.

⁽⁷⁾ Vests one-third upon the first anniversary of the grant date, one-third upon the second anniversary of the grant date and one-third upon the third anniversary of the grant date.

Employment Agreements with our Named Executive Officers

Employment Agreement with Mr. Eisenberg

We entered into an employment agreement with Mr. Eisenberg effective as of December 1, 2016 for him to serve as Chief Operating Officer (the “Original Agreement”). The Original Agreement was for an initial term of one year, and automatically renewed for successive one year periods unless either party gave notice to the other no later than 90 days prior to the expiration of the then-applicable term; provided, however, that we could terminate the Original Agreement at any time. Mr. Eisenberg’s annual salary under the Original Agreement was \$300,000, and was subject to annual review and upward adjustment only by the Compensation Committee of the Board. Mr. Eisenberg was also eligible to receive a bonus equal to 35% of his annual salary based on the attainment of certain individual and/or Company goals established by the Board or a committee thereto. Mr. Eisenberg was also eligible to participate in our employee benefit, welfare and other plans, as may be maintained by us from time to time, on a basis no less favorable than those provided to other similarly situated executives of the Company. Mr. Eisenberg was also subject to certain customary confidentiality, non-solicitation and non-competition provisions.

Under the Original Agreement, if Mr. Eisenberg’s employment was terminated by us without “Cause” (as defined in the Original Agreement) or if he resigned for “Good Reason” (as defined in the Original Agreement), he was entitled to receive (i) six months of his then current base salary, paid over time in accordance with our payroll practices then in effect if he had been employed by us for six months or less, (ii) 12 months of his then current base salary, paid over time in accordance with our payroll practices then in effect if he had been employed by us for more than six months, (iii) a pro-rated annual bonus and (iv) payment of premiums for continued health benefits under COBRA for up to six months.

On October 26, 2017, the Company amended and restated the Original Agreement in order to employ Mr. Eisenberg as the Chief Executive Officer of the Company, effective as of the same date (the “Amended Agreement”). The terms of the Amended Agreement were substantially similar to the terms of the Original Agreement, except that Mr. Eisenberg is now eligible to receive a bonus equal to 50% of his annual salary based on the attainment of certain individual and/or Company goals established by the Board or a committee thereto, and if Mr. Eisenberg’s employment is terminated by us without “Cause” (as defined in the Amended Agreement) or if he resigns for “Good Reason” (as defined in the Amended Agreement), he will be entitled to receive (i) within thirty days following the date of termination, an amount equal to one times his then current base salary, (ii) a pro-rated annual bonus and (iii) payment of premiums for continued health benefits under COBRA for up to twelve months.

Employment Agreement with Mr. Parslow

We entered into an employment agreement with Mr. Parslow effective as of April 3, 2017 (the “Parslow Employment Agreement”). The Parslow Employment Agreement does not provide for a specified term of employment and Mr. Parslow’s employment will be on an at-will basis. Mr. Parslow will receive an initial annual base salary of \$265,000 and is eligible to earn an annual cash incentive bonus, which is initially set at a target aggregate bonus amount of 35% of Mr. Parslow’s base salary, upon achievement of certain individual and/or Company performance goals set by the Compensation Committee. Mr. Parslow is also eligible to participate in the Company’s employee benefit, welfare and other plans, as may be maintained by the Company from time to time, on a basis no less favorable than those provided to other similarly-situated executives of the Company. Mr. Parslow is also subject to certain customary confidentiality, non-solicitation and non-competition provisions.

If Mr. Parslow's employment is terminated by the Company without "cause" (as defined in the Parslow Employment Agreement) or Mr. Parslow resigns for "good reason" (as defined in the Parslow Employment Agreement), after six months of employment but before his first anniversary with the Company, he will be entitled to receive (i) six months of his then current base salary, paid over time in accordance with the Company's payroll practices then in effect and (ii) payment of premiums for continued health benefits under COBRA for up to six months. If Mr. Parslow's employment is terminated by the Company without "cause" (as defined in the Parslow Employment Agreement) or Mr. Parslow resigns for "good reason" (as defined in the Parslow Employment Agreement), after his first anniversary with the Company, he will be entitled to receive (i) one year of his then current base salary, paid over time in accordance with the Company's payroll practices then in effect and (ii) payment of premiums for continued health benefits under COBRA for up to one year.

Employment Agreement with Dr. Lockshin

We entered into an employment agreement with Dr. Lockshin effective as of January 1, 2017 (the "Lockshin Employment Agreement"). The Lockshin Employment Agreement does not provide for a specified term of employment and Dr. Lockshin's employment will be on an at-will basis. Dr. Lockshin will receive an initial annual base salary of \$250,000 and is eligible to earn an annual performance-based cash incentive bonus, which is initially set at a target aggregate bonus amount of 35% of Dr. Lockshin's base salary, upon achievement of certain individual and/or Company performance goals established by the Board or a committee thereto. Dr. Lockshin is also eligible to participate in the Company's employee benefit, welfare and other plans, as may be maintained by the Company from time to time, on a basis no less favorable than those provided to other similarly-situated executives of the Company. Dr. Lockshin is also subject to certain customary confidentiality, non-solicitation and non-competition provisions.

If Dr. Lockshin's employment is terminated by the Company without "Cause" (as defined in the Lockshin Employment Agreement) or Dr. Lockshin terminates his employment for "Good Reason" (as defined in the Lockshin Employment Agreement) and Dr. Lockshin executes and does not revoke a general release of claims against the Company, then he will be entitled to receive (i) one year of his then current base salary, paid over time in accordance with the Company's payroll practices then in effect and (ii) payment of premiums for continued health benefits under COBRA for up to twelve months.

Potential Payments Upon Termination or Change of Control

Our named executive officers may be entitled to payments upon termination or change in control. The details of such payments are included in the description of their employment agreements above.

EQUITY COMPENSATION PLAN INFORMATION

The following table sets forth information as of December 31, 2018 with respect to compensation plans under which equity securities are authorized for issuance:

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
Equity compensation plans approved by security holders	142,357 ⁽¹⁾	\$ 44.76	133,302
Equity compensation plans not approved by security holders	14,584 ⁽²⁾	54.84	–
Total	156,941	\$ 45.65	133,302

⁽¹⁾ Consists of 142,357 shares of our common stock to be issued upon the exercise of outstanding stock options and restricted stock units under the Xenetic Biosciences, Inc. Amended and Restated 2014 Equity Incentive Plan.

⁽²⁾ Represents inducement award granted in 2017 that was not covered under the Xenetic Biosciences, Inc. Amended and Restated 2014 Equity Incentive Plan.

DIRECTOR COMPENSATION

Each of our non-employee, independent directors is currently entitled to receive an annual retainer of \$50,000, payable in equal quarterly installments, an option to acquire 25,000 shares of the Company's common stock upon initial appointment to the Board, and an additional option to acquire 25,000 shares each year thereafter on the date of the Company's annual meeting of stockholders. All members of our Board are reimbursed for their usual and customary expenses incurred in connection with their service on the Board, including out-of-pocket expenses, transportation, and airfare on the Company's business.

Director Compensation Table

As an employee director during fiscal year 2018, Mr. Eisenberg did not receive any compensation for his Board service during the last completed year. The following table sets forth information for the year ended December 31, 2018 regarding the compensation awarded to, earned by or paid to our non-employee directors:

Name	Fees Earned or Paid in Cash (\$)	Stock Awards (\$)	Option Awards ⁽¹⁾⁽²⁾ (\$)	All Other Compensation (\$)	Total (\$)
Dr. James E. Callaway	\$ 50,000	–	\$ 65,642	–	\$ 115,642
Firdaus J. Dastoor	\$ 50,000	–	\$ 65,642	–	\$ 115,642
Dr. Dmitry Genkin	\$ –	–	\$ –	–	\$ –
Roman Knyazev ⁽³⁾	\$ –	–	\$ –	–	\$ –
Dr. Roger Kornberg	\$ 50,000	–	\$ 65,642	–	\$ 115,642
Mr. Adam Logal	\$ 50,000	–	\$ 65,642	–	\$ 115,642

(1) The amounts represent the aggregate grant date fair value of stock options granted during 2018. For a discussion of the assumptions and methodology used to calculate the value of our stock options, see Note 10 to our audited financial statements included in Item 8 of the Original Filing.

(2) The table below shows the aggregate number of option awards outstanding for each of our non-employee directors as of December 31, 2018:

Name	Option Awards (#)
Dr. James Callaway	4,168
Firdaus J. Dastoor	7,956
Dr. Dmitry Genkin	3,157
Roman Knyazev	3,157
Dr. Roger Kornberg	5,999
Adam Logal	4,168

(3) Mr. Knyazev resigned from the Board on September 25, 2019.

In addition to the option awards described above, Mr. Dastoor holds a warrant to purchase 4,041 shares of our common stock at \$95.04 per share. These warrants are fully vested and expire in December 2019. In addition, Dr. Genkin holds a warrant to purchase 2,526 shares of our common stock at \$166.32 per share. These warrants are fully vested and expire in April 2021.

See "Certain Related Person Transactions" below for compensation arrangements involving specific members of the Board.

PROPOSAL 3

APPROVAL BY NON-BINDING ADVISORY VOTE OF THE RESOLUTION APPROVING NAMED EXECUTIVE OFFICER COMPENSATION

We have determined that our stockholders should vote on the compensation of our named executive officers each year, consistent with the preference expressed by our stockholders at the 2018 Annual Meeting of Stockholders. The Dodd-Frank Wall Street Reform and Consumer Protection Act (the “Dodd-Frank Act”) requires all public companies to hold a separate non-binding advisory stockholder vote to approve the compensation of named executive officers as reported in this proxy statement (commonly known as the “Say On Pay” vote). It is expected that the next vote on the frequency of a Say on Pay vote will occur at the 2024 Annual Meeting of Stockholders.

Pursuant to Section 14A of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and as a matter of good corporate governance, the Company is asking stockholders to approve the following Say on Pay advisory resolution at the Annual Meeting:

RESOLVED, that the stockholders of Xenetic Biosciences, Inc. (the “Company”) hereby approve, on an advisory basis, the compensation paid to the Company’s named executive officers as disclosed in this proxy statement pursuant to the SEC’s disclosure rules, including the narrative discussion in the section entitled “Executive Compensation”, the Summary Compensation Table and the related compensation tables, notes and narrative in the Proxy Statement for the Company’s 2019 Annual Meeting of Stockholders.

This advisory resolution is not binding on the Company. Although non-binding, the Board and the Compensation Committee value the opinions of our stockholders and will carefully review and consider the voting results when evaluating our named executive officer compensation.

**THE BOARD OF DIRECTORS RECOMMENDS A VOTE
“FOR” THE SAY ON PAY PROPOSAL**

PROPOSAL 4

APPROVAL OF THE AMENDED AND RESTATED EQUITY INCENTIVE PLAN

We are asking our stockholders to approve the Amended and Restated Xenetic Biosciences, Inc. Equity Incentive Plan (the “Restated Plan”) at the Annual Meeting. The Restated Plan was approved by our Board of Directors on September 26, 2019, subject to approval by our stockholders. The Restated Plan is intended to amend and restate the Xenetic Biosciences, Inc. Amended and Restated 2014 Equity Incentive Plan (the “A&R 2014 Plan”).

Why We Are Asking our Stockholders to Approve the Restated Plan

Currently, we maintain the A&R 2014 Plan to grant stock options, restricted stock units and other stock awards in order to provide long-term incentives to our employees, consultants and directors. Because the A&R 2014 Plan does not have sufficient shares available for grant to cover awards for the remainder of the year, our ability to use long-term equity-based compensation as a significant component of its overall compensation would be limited if the stockholders do not approve the Restated Plan. In considering and approving the Restated Plan, our Board determined that the number of shares of common stock proposed to increase the reserve for issuance under the A&R 2014 Plan is expected to allow us to use equity compensation as an important component of compensation for our executives and key employees through 2023. The Board believes it is advisable to have an additional 750,000 shares of common stock available under the Restated Plan. In addition, the Restated Plan also reflects the Board’s desire to update certain plan provisions to conform with current market practices, including changes to address the Tax Cuts and Jobs Act of 2017 repeal of the qualified performance-based exemption from the deduction limitations on compensation paid to certain executives under Section 162 (m) the Code.

Approval of the Restated Plan by our stockholders will allow us to continue to grant stock options, restricted stock unit awards and other awards at levels determined appropriate by our Board or Compensation Committee. The Restated Plan will also allow us to utilize a broad array of equity incentives and performance cash incentives in order to secure and retain the services of our employees, directors and consultants, and to provide long-term incentives that align the interests of our employees, directors and consultants with the interests of our stockholders.

Requested Shares

Subject to adjustment for certain changes in our capitalization, if this Proposal 4 is approved by our stockholders, the aggregate number of shares of our common stock that may be issued under the Restated Plan will not exceed 1,025,636, which number is the sum of and includes (i) the number of shares subject to outstanding stock awards granted under the A&R 2014 Plan that may become available for grant under the Restated Plan as such shares become available from time to time (as further described below in “Description of the 2014 Equity Incentive Plan – Shares Available for Awards”), (ii) the number of shares available for issuance under the A&R 2014 Plan prior to amendment and restatement hereby (which is equal to 67,802 shares as of October 25, 2019), and (iii) an additional 750,000 shares.

As described below, the Board believes that equity compensation is an important aspect of our executive compensation strategy as it aligns executive compensation with stockholders' interests and at the same time provides the incentives necessary to attract, reward, motivate and retain key talent. Based on historic grant practices, with the exception of 2018 when our equity grants were unusually low relative to other years, and our intention to continue to use equity compensation as a significant component of total compensation, our Board has estimated that such aggregate number of shares should be sufficient to cover awards through 2022/2023.

Why You Should Vote to Approve the Restated Plan

Equity Awards Are an Important Part of Our Compensation Philosophy

Our Board believes that our future success depends, in large part, on our ability to maintain a competitive position in attracting, retaining and motivating key personnel, consultants and advisors. The efforts and skill of our employees and other service providers generate much of the growth and success of our business. Our employees, consultants and directors understand that their stake in the Company will have only if, working together, we create value for our stockholders. The Board also believes that the Restated Plan is necessary to ensure that the number of shares available for issuance is sufficient to allow us to continue to attract and retain the services of talented individuals essential to our long-term growth and financial success. The adoption of the Restated Plan and new share reserve of 750,000 shares will address the depletion to the A&R 2014 Plan's available share reserve that has occurred as a result of the recent corporate developments. The Restated Plan will allow us to continue to provide performance-based incentives to our eligible employees, consultants and advisors. Therefore, the Board believes that the Restated Plan is in the best interests of the Company and its stockholders and recommends a vote in favor of this Proposal 4.

We Manage Our Equity Incentive Award Use Carefully, and Dilution Is Reasonable

We continue to believe that equity awards such as stock options are a vital part of our overall compensation program. Our compensation philosophy reflects broad-based eligibility for equity incentive awards, and we grant awards to substantially all of our employees. However, we recognize that equity awards dilute existing stockholders, and, therefore, we must responsibly manage the growth of our equity compensation program. We are committed to effectively monitoring our equity compensation share reserve, including our "burn rate," to ensure that we maximize stockholders' value by granting the appropriate number of equity incentive awards necessary to attract, reward, and retain employees.

The Size of Our Share Reserve Request Is Reasonable

If the Restated Plan is approved by our stockholders, we expect to have approximately 820,000 shares available for grant after our Annual Meeting (based on shares available as of October 25, 2019). Based on our historical grant practices (excluding 2018 when grants were unusually low) and the grants anticipated for this year, we anticipate this pool of shares will be sufficient for grants through 2022/2023, and will be necessary to provide a predictable amount of equity for attracting, retaining, and motivating employees.

Key Plan Features

The Restated Plan includes provisions that are designed to protect our stockholders' interests and to reflect corporate governance best practices including:

- *Minimum Vesting Requirement.* Subject to certain limited exceptions, awards granted under the Restated Plan will be subject to a minimum vesting period of one year.
- *No liberal share counting or recycling.* The following shares will not become available again for issuance under the Restated Plan: (i) shares that are reacquired or withheld (or not issued) by us to satisfy the exercise or purchase price of a stock award; (ii) shares that are reacquired or withheld (or not issued) by us to satisfy a tax withholding obligation in connection with a stock award; (iii) any shares repurchased by us on the open market with the proceeds of the exercise or purchase price of a stock award; and (iv) in the event that a SAR granted under the Restated Plan is settled in shares of Common Stock, the gross number of shares of Common Stock subject to such award.
- *Awards subject to forfeiture/clawback.* Awards granted under the Restated Plan will be subject to recoupment in accordance with any clawback policy that we are required to adopt pursuant to the listing standards of any national securities exchange or association on which our securities are listed or as is otherwise required by the Dodd-Frank Wall Street Reform and Consumer Protection Act or other applicable law. In addition, we may impose other clawback, recovery or recoupment provisions in an award agreement, including a reacquisition right in respect of previously acquired shares or other cash or property upon the occurrence of cause.
- *Repricing is not allowed.* The Restated Plan prohibits the repricing of outstanding stock options and stock appreciation rights and the cancellation of any outstanding stock options or stock appreciation rights that have an exercise or strike price greater than the then-current fair market value of our common stock in exchange for cash or other stock awards under the Restated Plan without prior stockholder approval.
- *Stockholder approval is required for additional shares.* The Restated Plan does not contain an annual "evergreen" provision. The Restated Plan authorizes a fixed number of shares, so that stockholder approval is required to issue any additional shares, allowing our stockholders to have direct input on our equity compensation programs.
- *No liberal change in control definition.* The change in control definition in the Restated Plan is not a "liberal" definition. A change in control transaction must actually occur in order for the change in control provisions in the Restated Plan to be triggered.
- *No discounted stock options or stock appreciation rights.* All stock options and stock appreciation rights granted under the Restated Plan must have an exercise or strike price equal to or greater than the fair market value of our common stock on the date the stock option or stock appreciation right is granted.
- *Administration by independent committee.* The Restated Plan will be administered by the members of our Compensation Committee, all of whom are "non-employee directors" within the meaning of Rule 16b-3 under the Exchange Act and "independent" within the meaning of the NASDAQ listing standards.

- *Material amendments require stockholder approval.* Consistent with NASDAQ rules, the Restated Plan requires stockholder approval of any material revisions to the Restated Plan. In addition, certain other amendments to the Restated Plan require stockholder approval.
- *Limit on non-employee director awards and other awards.* The maximum number of shares subject to stock awards granted during any calendar year to any of our non-employee directors, taken together with any cash fees paid by the Company to such non-employee director during such calendar year, may not exceed \$500,000 in total value (calculating the value of any such stock awards based on the grant date fair value of the stock awards for financial reporting purposes). The Restated Plan also contains other annual per-participant limits on stock options, stock appreciation rights and performance-based stock and cash awards.

Stockholder Approval

If this Proposal 4 is approved by our stockholders, the Restated Plan will become effective as of the date of the Annual Meeting and no additional awards will be granted under the A&R 2014 Plan (although all outstanding awards granted under the A&R 2014 Plan will continue to be subject to the terms and conditions as set forth in the agreements evidencing such awards and the terms of the A&R 2014 Plan). In the event that our stockholders do not approve this Proposal 4, the Restated Plan will not become effective and the A&R 2014 Plan will continue to be effective in accordance with its terms.

Description of the Restated Plan

The material features of the Restated Plan are described below. The following description of the Restated Plan is a summary only and is qualified in its entirety by reference to the complete text of the Restated Plan. Stockholders are urged to read the actual text of the Restated Plan in its entirety, which is attached to this proxy statement as Appendix A.

Purpose

The Restated Plan is designed to secure and retain the services of our employees, directors and consultants, provide incentives for our employees, directors and consultants to exert maximum efforts for the success of our company and our affiliates, and provide a means by which our employees, directors and consultants may be given an opportunity to benefit from increases in the value of our common stock.

Types of Awards

The terms of the Restated Plan provide for the grant of incentive stock options, nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards, other stock awards, and performance awards that may be settled in cash, stock, or other property.

Shares Available for Awards

Subject to adjustment for certain changes in our capitalization, the aggregate number of shares of our common stock that may be issued under the Restated Plan, or the Share Reserve, will not exceed 1,025,636 (which number is the sum of and includes (i) the number of shares subject to outstanding stock awards, (ii) the number of shares available for issuance under the A&R 2014 Plan prior to amendment and restatement hereby, and (iii) an additional 750,000 shares).

The following shares of our common stock, or the A&R 2014 Plan Returning Shares, will become available again for issuance under the Restated Plan: (i) any shares subject to a stock award that are not issued because such stock award expires or otherwise terminates without all of the shares covered by such stock award having been issued; (ii) any shares subject to a stock award that are not issued because such stock award is settled in cash; and (iii) any shares issued pursuant to a stock award that are forfeited back to or repurchased by us because of the failure to meet a contingency or condition required for the vesting of such shares.

The following shares of our common stock will not become available again for issuance under the Restated Plan: (i) any shares that are reacquired or withheld (or not issued) by us to satisfy the exercise or purchase price of a stock award granted under the Restated Plan (including any shares subject to such award that are not delivered because such award is exercised through a reduction of shares subject to such award); (ii) any shares that are reacquired or withheld (or not issued) by us to satisfy a tax withholding obligation in connection with a stock award granted under the Restated Plan; (iii) any shares repurchased by us on the open market with the proceeds of the exercise or purchase price of a stock award granted under the Restated Plan; and (iv) in the event that a SAR granted under the Restated Plan is settled in shares of Common Stock, the gross number of shares of Common Stock subject to such award.

Eligibility

The Restated Plan is available to all directors, employees and consultants of the Company and its affiliates who, in the opinion of the Compensation Committee and the Board, can contribute significantly to the growth and profitability of, or perform services of major importance to, the Company and its affiliates. Subject to the provisions of the Restated Plan, the Compensation Committee has the authority to select from all eligible individuals those to whom awards are granted and to determine the nature and amount of each award. As of October 25, 2019, approximately fourteen current or former employees, seven non-employee directors and six consultants participating in the Restated Plan and may receive all types of awards other than incentive stock options. Incentive stock options may be granted under the Restated Plan only to our employees (including officers) and employees of our subsidiaries.

Non-Employee Director Compensation Limit

Under the Restated Plan, the maximum number of shares of our common stock subject to stock awards granted during any one calendar year to any of our non-employee directors, taken together with any cash fees paid by the Company to such non-employee director during such calendar year, will not exceed \$500,000 in total value (calculating the value of any such stock awards based on the grant date fair value of such stock awards for financial reporting purposes).

Administration

The Restated Plan will be administered by our Board, which may in turn delegate authority to administer the Restated Plan to a committee. Our Board has delegated concurrent authority to administer the Restated Plan to our Compensation Committee, but may, at any time, revert in itself some or all of the power delegated to our Compensation Committee. The Board and the Compensation Committee are each considered to be a Plan Administrator for purposes of this Proposal 4. Subject to the terms of the Restated Plan, the Plan Administrator, may determine the recipients, the types of awards to be granted, the number of shares of our common stock subject to or the cash value of awards, and the terms and conditions of awards granted under the Restated Plan, including the period of their exercisability and vesting. The Plan Administrator also has the authority to provide for accelerated exercisability and vesting of awards. Subject to the limitations set forth below, the Plan Administrator also determines the fair market value applicable to a stock award and the exercise or strike price of stock options and stock appreciation rights granted under the Restated Plan.

The Plan Administrator may also delegate to one or more officers the authority to designate employees who are not officers to be recipients of certain stock awards and the number of shares of our common stock subject to such stock awards. Under any such delegation, the Plan Administrator will specify the total number of shares of our common stock that may be subject to the stock awards granted by such officer. The officer may not grant a stock award to himself or herself.

Repricing; Cancellation and Re-Grant of Stock Awards

Under the Restated Plan, the Plan Administrator does not have the authority to reprice any outstanding stock option or stock appreciation right by reducing the exercise or strike price of the stock option or stock appreciation right or to cancel any outstanding stock option or stock appreciation right that has an exercise or strike price greater than the then-current fair market value of our common stock in exchange for cash or other stock awards without obtaining the approval of our stockholders. Such approval must be obtained within 12 months prior to such an event.

Stock Options

Stock options may be granted under the Restated Plan pursuant to stock option agreements. The Restated Plan permits the grant of stock options that are intended to qualify as incentive stock options, or ISOs, and nonstatutory stock options, or NSOs.

The exercise price of a stock option granted under the Restated Plan may not be less than 100% of the fair market value of the common stock subject to the stock option on the date of grant and, in some cases (see "Limitations on Incentive Stock Options" below), may not be less than 110% of such fair market value.

The term of stock options granted under the Restated Plan may not exceed ten years and, in some cases (see "Limitations on Incentive Stock Options" below), may not exceed five years. Except as otherwise provided in a participant's stock option agreement or other written agreement with us or one of our affiliates, if a participant's service relationship with us or any of our affiliates (referred to in this Proposal 4 as "continuous service") terminates (other than for cause and other than upon the participant's death or disability), the participant may exercise any vested stock options for up to three months following the participant's termination of continuous service. Except as otherwise provided in a participant's stock option agreement or other written agreement with us or one of our affiliates, if a participant's continuous service terminates due to the participant's disability or death (or the participant dies within a specified period, if any, following termination of continuous service), the participant, or his or her beneficiary, as applicable, may exercise any vested stock options for up to 12 months following the participant's termination due to the participant's disability or for up to 18 months following the participant's death. Except as explicitly provided otherwise in a participant's stock option agreement or other written agreement with us or one of our affiliates, if a participant's continuous service is terminated for cause (as defined in the Restated Plan), all stock options held by the participant will terminate upon the participant's termination of continuous service and the participant will be prohibited from exercising any stock option from and after such termination date. Except as otherwise provided in a participant's stock option agreement or other written agreement with us or one of our affiliates, the term of a stock option may be extended if the exercise of the stock option following the participant's termination of continuous service (other than for cause and other than upon the participant's death or disability) would be prohibited by applicable securities laws or if the sale of any common stock received upon exercise of the stock option following the participant's termination of continuous service (other than for cause) would violate our insider trading policy. In no event, however, may a stock option be exercised after its original expiration date.

Acceptable forms of consideration for the purchase of our common stock pursuant to the exercise of a stock option under the Restated Plan will be determined by the Plan Administrator and may include payment: (i) by cash, check, bank draft or money order payable to us; (ii) pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board; (iii) by delivery to us of shares of our common stock (either by actual delivery or attestation); (iv) by a net exercise arrangement (for NSOs only); or (v) in other legal consideration approved by the Plan Administrator.

Stock options granted under the Restated Plan may become exercisable in cumulative increments, or “vest,” as determined by the Plan Administrator at the rate specified in the stock option agreement. Shares covered by different stock options granted under the Restated Plan may be subject to different vesting schedules as the Plan Administrator may determine.

The Plan Administrator may impose limitations on the transferability of stock options granted under the Restated Plan in its discretion. Generally, a participant may not transfer a stock option granted under the Restated Plan other than by will or the laws of descent and distribution or, subject to approval by the Plan Administrator, pursuant to a domestic relations order or an official marital settlement agreement. However, the Plan Administrator may permit transfer of a nonqualified stock option in a manner that is not prohibited by applicable tax and securities laws. In addition, subject to approval by the Plan Administrator, a participant may designate a beneficiary who may exercise the stock option following the participant’s death.

Limitations on Incentive Stock Options

The aggregate fair market value, determined at the time of grant, of shares of our common stock with respect to ISOs that are exercisable for the first time by a participant during any calendar year under all of our stock plans may not exceed \$100,000. The stock options or portions of stock options that exceed this limit or otherwise fail to qualify as ISOs are treated as NSOs. No ISO may be granted to any person who, at the time of grant, owns or is deemed to own stock possessing more than 10% of our total combined voting power or that of any affiliate unless the following conditions are satisfied:

- the exercise price of the ISO must be at least 110% of the fair market value of the common stock subject to the ISO on the date of grant; and
- the term of the ISO must not exceed five years from the date of grant.

Stock Appreciation Rights

Stock appreciation rights may be granted under the Restated Plan pursuant to stock appreciation right agreements. Each stock appreciation right is denominated in common stock share equivalents. The strike price of each stock appreciation right will be determined by the Plan Administrator, but will in no event be less than 100% of the fair market value of the common stock subject to the stock appreciation right on the date of grant. The Plan Administrator may also impose restrictions or conditions upon the vesting of stock appreciation rights that it deems appropriate. The appreciation distribution payable upon exercise of a stock appreciation right may be paid in shares of our common stock, in cash, in a combination of cash and stock, or in any other form of consideration determined by the Plan Administrator and set forth in the stock appreciation right agreement. Stock appreciation rights will be subject to the same conditions upon termination of continuous service and restrictions on transfer as stock options under the Restated Plan.

Restricted Stock Awards

Restricted stock awards may be granted under the Restated Plan pursuant to restricted stock award agreements. A restricted stock award may be granted in consideration for cash, check, bank draft or money order payable to us, the participant's services performed for us or any of our affiliates, or any other form of legal consideration acceptable to the Plan Administrator. Shares of our common stock acquired under a restricted stock award may be subject to forfeiture to or repurchase by us in accordance with a vesting schedule to be determined by the Plan Administrator. Rights to acquire shares of our common stock under a restricted stock award may be transferred only upon such terms and conditions as are set forth in the restricted stock award agreement. A restricted stock award agreement may provide that any dividends paid on restricted stock will be subject to the same vesting conditions as apply to the shares subject to the restricted stock award. Upon a participant's termination of continuous service for any reason, any shares subject to restricted stock awards held by the participant that have not vested as of such termination date may be forfeited to or repurchased by us.

Restricted Stock Unit Awards

Restricted stock unit awards may be granted under the Restated Plan pursuant to restricted stock unit award agreements. Payment of any purchase price may be made in any form of legal consideration acceptable to the Plan Administrator. A restricted stock unit award may be settled by the delivery of shares of our common stock, in cash, in a combination of cash and stock, or in any other form of consideration determined by the Plan Administrator and set forth in the restricted stock unit award agreement. Restricted stock unit awards may be subject to vesting in accordance with a vesting schedule to be determined by the Plan Administrator. Dividend equivalents may be credited in respect of shares of our common stock covered by a restricted stock unit award, provided that any additional shares credited by reason of such dividend equivalents will be subject to all of the same terms and conditions of the underlying restricted stock unit award. Except as otherwise provided in a participant's restricted stock unit award agreement or other written agreement with us or one of our affiliates, restricted stock units that have not vested will be forfeited upon the participant's termination of continuous service for any reason.

Other Stock Awards

Other forms of stock awards valued in whole or in part by reference to, or otherwise based on, our common stock may be granted either alone or in addition to other stock awards under the Restated Plan. Subject to the terms of the Restated Plan, the Plan Administrator will have sole and complete authority to determine the persons to whom and the time or times at which such other stock awards will be granted, the number of shares of our common stock to be granted and all other terms and conditions of such other stock awards.

Clawback Policy

Awards granted under the Restated Plan will be subject to recoupment in accordance with any clawback policy that we are required to adopt pursuant to the listing standards of any national securities exchange or association on which our securities are listed or as is otherwise required by the Dodd-Frank Wall Street Reform and Consumer Protection Act or other applicable law. In addition, the Plan Administrator may impose other clawback, recovery or recoupment provisions in an award agreement as the Plan Administrator determines necessary or appropriate, including a reacquisition right in respect of previously acquired shares of our common stock or other cash or property upon the occurrence of cause.

Changes to Capital Structure

In the event of certain capitalization adjustments, the Plan Administrator will appropriately adjust: (i) the class(es) and maximum number of securities subject to the Restated Plan; (ii) the class(es) and maximum number of securities that may be issued pursuant to the exercise of ISOs; and (iii) the class(es) and number of securities and price per share of stock subject to outstanding stock awards.

Corporate Transaction

In the event of a corporate transaction (as defined in the Restated Plan and described below), the Plan Administrator may take one or more of the following actions with respect to stock awards, contingent upon the closing or consummation of the corporate transaction, unless otherwise provided in the instrument evidencing the stock award, in any other written agreement between us or one of our affiliates and the participant or in our director compensation policy, or unless otherwise provided by the Plan Administrator at the time of grant of the stock award:

- arrange for the surviving or acquiring corporation (or its parent company) to assume or continue the stock award or to substitute a similar stock award for the stock award (including an award to acquire the same consideration paid to our stockholders pursuant to the corporate transaction);
- arrange for the assignment of any reacquisition or repurchase rights held by us in respect of our common stock issued pursuant to the stock award to the surviving or acquiring corporation (or its parent company);
- accelerate the vesting (and, if applicable, the exercisability) of the stock award to a date prior to the effective time of the corporate transaction as determined by the Plan Administrator (or, if the Plan Administrator does not determine such a date, to the date that is five days prior to the effective date of the corporate transaction), with the stock award terminating if not exercised (if applicable) at or prior to the effective time of the corporate transaction; *provided, however*, that the Plan Administrator may require participants to complete and deliver to us a notice of exercise before the effective date of a corporate transaction, which is contingent upon the effectiveness of the corporate transaction;
- arrange for the lapse of any reacquisition or repurchase rights held by us with respect to the stock award;
- cancel or arrange for the cancellation of the stock award, to the extent not vested or not exercised prior to the effective time of the corporate transaction, in exchange for such cash consideration, if any, as the Plan Administrator may consider appropriate; and
- cancel or arrange for the cancellation of the stock award, to the extent not vested or not exercised prior to the effective time of the corporate transaction, in exchange for a payment, in such form as may be determined by the Plan Administrator equal to the excess, if any, of (i) the value of the property the participant would have received upon the exercise of the stock award immediately prior to the effective time of the corporate transaction, over (ii) any exercise price payable in connection with such exercise, which payment may be subject to any escrow, holdback, earnout or similar provisions to the same extent and in the same manner as those provisions apply to holders of common stock.

The Plan Administrator is not required to take the same action with respect to all stock awards or portions of stock awards or with respect to all participants. The Plan Administrator may take different actions with respect to the vested and unvested portions of a stock award.

In the event of a corporate transaction, unless otherwise provided in the instrument evidencing a performance cash award or any other written agreement between us or one of our affiliates and the participant, or unless otherwise provided by the Plan Administrator, all performance cash awards will terminate prior to the effective time of the corporate transaction.

For purposes of the Restated Plan, a corporate transaction generally will be deemed to occur in the event of the consummation of: (i) a sale or other disposition of all or substantially all of our consolidated assets; (ii) a sale or other disposition of more than 50% of our outstanding securities; (iii) a merger, consolidation or similar transaction following which we are not the surviving corporation; or (iv) a merger, consolidation or similar transaction following which we are the surviving corporation but the shares of our common stock outstanding immediately prior to the transaction are converted or exchanged into other property by virtue of the transaction.

Change in Control

Under the Restated Plan, a stock award may be subject to additional acceleration of vesting and exercisability upon or after a change in control (as defined in the Restated Plan and described below) as may be provided in the participant's stock award agreement, in any other written agreement with us or one of our affiliates or in our director compensation policy, but in the absence of such provision, no such acceleration will occur.

For purposes of the Restated Plan, a change in control generally will be deemed to occur in the event: (i) a person, entity or group acquires, directly or indirectly, our securities representing more than 50% of the combined voting power of our then outstanding securities, other than by virtue of a merger, consolidation, or similar transaction; (ii) there is consummated a merger, consolidation, or similar transaction and, immediately after the consummation of such transaction, our stockholders immediately prior thereto do not own, directly or indirectly, more than 50% of the combined outstanding voting power of the surviving entity or the parent of the surviving entity in substantially the same proportions as their ownership of our outstanding voting securities immediately prior to such transaction; (iii) there is consummated a sale or other disposition of all or substantially all of our consolidated assets, other than a sale or other disposition to an entity in which more than 50% of the entity's combined voting power is owned by our stockholders in substantially the same proportions as their ownership of our outstanding voting securities immediately prior to such sale or other disposition; or (iv) a majority of our Board becomes comprised of individuals whose nomination, appointment, or election was not approved by a majority of the Board members or their approved successors.

Plan Amendments and Termination

The Plan Administrator will have the authority to amend or terminate the Restated Plan at any time. However, except as otherwise provided in the Restated Plan or an award agreement, no amendment or termination of the Restated Plan may materially impair a participant's rights under his or her outstanding awards without the participant's consent. We will obtain stockholder approval of any amendment to the Restated Plan as required by applicable law and listing requirements. No incentive stock options may be granted under the Restated Plan after the tenth anniversary of the date the Restated Plan was adopted by our Compensation Committee.

U.S. Federal Income Tax Consequences

The following is a summary of the principal United States federal income tax consequences to participants and us with respect to participation in the Restated Plan. This summary is not intended to be exhaustive and does not discuss the income tax laws of any local, state or foreign jurisdiction in which a participant may reside. The information is based upon current federal income tax rules and therefore is subject to change when those rules change. Because the tax consequences to any participant may depend on his or her particular situation, each participant should consult the participant's tax adviser regarding the federal, state, local and other tax consequences of the grant or exercise of an award or the disposition of stock acquired the Restated Plan. The Restated Plan is not qualified under the provisions of Section 401(a) of the Code and is not subject to any of the provisions of the Employee Retirement Income Security Act of 1974. Our ability to realize the benefit of any tax deductions described below depends on our generation of taxable income as well as the requirement of reasonableness and the satisfaction of our tax reporting obligations.

Nonstatutory Stock Options

Generally, there is no taxation upon the grant of an NSO if the stock option is granted with an exercise price equal to the fair market value of the underlying stock on the grant date. Upon exercise, a participant will recognize ordinary income equal to the excess, if any, of the fair market value of the underlying stock on the date of exercise of the stock option over the exercise price. If the participant is employed by us or one of our affiliates, that income will be treated as compensation subject to withholding for applicable income and employment taxes. The participant's tax basis in those shares will be equal to his or her fair market value on the date of exercise of the stock option, and the participant's capital gain holding period for those shares will begin on that date.

Subject to the requirement of reasonableness, application of the deduction limitations under Section 162(m) of the Code, and the satisfaction of a tax reporting obligation, we will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the participant.

Incentive Stock Options

The Restated Plan provides for the grant of stock options that are intended to qualify as "incentive stock options," as defined in Section 422 of the Code. Under the Code, a participant generally is not subject to ordinary income tax upon the grant or exercise of an ISO. If the participant holds a share received upon exercise of an ISO for more than two years from the date the stock option was granted and more than one year from the date the stock option was exercised, which is referred to as the required holding period, the difference, if any, between the amount realized on a sale or other taxable disposition of that share and the participant's tax basis in that share will be long-term capital gain or loss.

If, however, a participant disposes of a share acquired upon exercise of an ISO before the end of the required holding period, which is referred to as a disqualifying disposition, the participant generally will recognize ordinary income in the year of the disqualifying disposition equal to the excess, if any, of the fair market value of the share on the date of exercise of the stock option over the exercise price. However, if the sales proceeds are less than the fair market value of the share on the date of exercise of the stock option, the amount of ordinary income recognized by the participant will not exceed the gain, if any, realized on the sale. If the amount realized on a disqualifying disposition exceeds the fair market value of the share on the date of exercise of the stock option, that excess will be short-term or long-term capital gain, depending on whether the holding period for the share exceeds one year.

For purposes of the alternative minimum tax, the amount by which the fair market value of a share of stock acquired upon exercise of an ISO exceeds the exercise price of the stock option generally will be an adjustment included in the participant's alternative minimum taxable income for the year in which the stock option is exercised. If, however, there is a disqualifying disposition of the share in the year in which the stock option is exercised, there will be no adjustment for alternative minimum tax purposes with respect to that share. In computing alternative minimum taxable income, the tax basis of a share acquired upon exercise of an ISO is increased by the amount of the adjustment taken into account with respect to that share for alternative minimum tax purposes in the year the stock option is exercised.

We are not allowed a tax deduction with respect to the grant or exercise of an ISO or the disposition of a share acquired upon exercise of an ISO after the required holding period. If there is a disqualifying disposition of a share, however, we will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the participant, subject to the requirement of reasonableness, application of the deduction limitations under Section 162(m) of the Code, and provided that either the employee includes that amount in income or we timely satisfy our reporting requirements with respect to that amount.

Restricted Stock Awards

Generally, the recipient of a restricted stock award will recognize ordinary income at the time the stock is received equal to the excess, if any, of the fair market value of the stock received over any amount paid by the recipient in exchange for the stock. If, however, the stock is not vested when it is received (for example, if the employee is required to work for a period of time in order to have the right to sell the stock), the recipient generally will not recognize income until the stock becomes vested, at which time the recipient will recognize ordinary income equal to the excess, if any, of the fair market value of the stock on the date it becomes vested over any amount paid by the recipient in exchange for the stock. A recipient may, however, file an election with the Internal Revenue Service, within 30 days following his or her receipt of the stock award, to recognize ordinary income, as of the date the recipient receives the award, equal to the excess, if any, of the fair market value of the stock on the date the award is granted over any amount paid by the recipient for the stock.

The recipient's basis for the determination of gain or loss upon the subsequent disposition of shares acquired from a restricted stock award will be the amount paid for such shares plus any ordinary income recognized either when the stock is received or when the stock becomes vested.

Subject to the requirement of reasonableness, application of the deduction limitations under Section 162(m) of the Code, and the satisfaction of a tax reporting obligation, we will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the recipient of the restricted stock award.

Restricted Stock Unit Awards

Generally, the recipient of a restricted stock unit award structured to comply with the requirements of Section 409A of the Code or an exception to Section 409A of the Code will recognize ordinary income at the time the stock is delivered equal to the excess, if any, of the fair market value of the stock received over any amount paid by the recipient in exchange for the stock. To comply with the requirements of Section 409A of the Code, the stock subject to a restricted stock unit award may generally only be delivered upon one of the following events: a fixed calendar date (or dates), separation from service, death, disability or a change in control. If delivery occurs on another date, unless the restricted stock unit award otherwise complies with or qualifies for an exception to the requirements of Section 409A of the Code (including delivery upon achievement of a performance goal), in addition to the tax treatment described above, the recipient will owe an additional 20% federal tax and interest on any taxes owed.

The recipient's basis for the determination of gain or loss upon the subsequent disposition of shares acquired from a restricted stock unit award will be the amount paid for such shares plus any ordinary income recognized when the stock is delivered.

Subject to the requirement of reasonableness, application of the deduction limitations under Section 162(m) of the Code, and the satisfaction of a tax reporting obligation, we will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the recipient of the restricted stock unit award.

Stock Appreciation Rights

Generally, if a stock appreciation right is granted with an exercise price equal to the fair market value of the underlying stock on the grant date, the recipient will recognize ordinary income equal to the fair market value of the stock or cash received upon such exercise. Subject to the requirement of reasonableness, application of the deduction limitations under Section 162(m) of the Code, and the satisfaction of a tax reporting obligation, we will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the recipient of the stock appreciation right.

New Plan Benefits

Future awards under the Restated Plan are subject to the discretion of the Compensation Committee. Therefore, we cannot determine future benefits for any such awards under the Restated Plan at this time.

Required Vote and Board of Directors Recommendation

Approval of this Proposal 4 requires the affirmative vote of a majority of the shares cast affirmatively or negatively for this proposal at the Annual Meeting either in person or by proxy. Abstentions and broker non-votes are counted towards a quorum, but are not counted for any purpose in determining whether this matter has been approved.

**THE BOARD OF DIRECTORS RECOMMENDS
A VOTE IN FAVOR OF PROPOSAL 4.**

TRANSACTIONS WITH RELATED PERSONS

During the fiscal year ended December 31, 2018 and the fiscal year ended December 31, 2017, there was not, nor is there any currently proposed transaction or series of similar transactions to which the Company was or is to be a party in which the amount involved exceeded or exceeds the lesser of \$120,000 or 1% of the average of our total assets at year-end for the last two completed fiscal years and in which any executive officer, director or holder of more than 5% of any class of voting securities of the Company and members of that person's immediate family had, has or will have a direct or indirect material interest, other than as set forth in "Executive Compensation" and "Director Compensation Table" above and disclosed below.

Policy Regarding Related Party Transactions

Our Board has adopted a written related party transaction policy on November 1, 2016 to set forth the policies and procedures for the review and approval or ratification of related party transactions. Any transaction between the Company and its officers, directors, principal stockholders or affiliates is required to be on terms no less favorable to us than could be reasonably obtained in arms-length transactions with independent third-parties. Transactions described in this section that occurred prior to November 1, 2016 were not covered by this policy. On March 16, 2018, our Board formed the Strategic Alternatives Committee (the "SAC") to evaluate an alternative transaction and other strategic alternatives for the Company should they arise. James Callaway, an independent outside director of the Company, was appointed Chair of the SAC. The SAC had primary oversight over the XCART Technology acquisition and was disbanded in September 2019.

Certain Related Person Transactions

PJSC Pharmsynthez

Pharmsynthez (formerly, OJSC Pharmsynthez) is our largest and controlling stockholder with a share ownership of approximately 7% of the total issued and outstanding common stock at October 25, 2019. In addition to its common stock ownership, Pharmsynthez holds outstanding warrants to purchase our common stock and approximately 1.5 million shares of our issued and outstanding Series B Preferred Stock at October 25, 2019. Pharmsynthez was a related party of SynBio, LLC ("SynBio"), which is a related party of ours, and acquired 100% of SynBio in February 2017. The combined ownership of Pharmsynthez and SynBio was approximately 8% at October 25, 2019. In addition, one of our directors, Dr. Dmitry Genkin, is the Executive Chairman of the board of directors of Pharmsynthez, and Dr. Grigory Borisenko, another one of our directors, is employed as the Investment Director of Rusnano LLC, an entity affiliated with Pharmsynthez. Additionally, one of our executive officers, Dr. Curtis Lockshin, is an officer of a wholly-owned subsidiary of Pharmsynthez. In November 2009, the Company entered into a collaborative research and development license agreement with Pharmsynthez (the "Pharmsynthez Arrangement") pursuant to which the Company granted an exclusive license to Pharmsynthez to develop, commercialize and market six drug candidates based on the Company's PolyXen and ImuXen technology in certain territories. In exchange, Pharmsynthez granted an exclusive license to the Company to use any preclinical and clinical data developed by Pharmsynthez, within the scope of the Pharmsynthez Arrangement, and to engage in further research, development and commercialization of drug candidates outside of certain territories at the Company's own expense.

During the third quarter of 2019, the Company entered into a sponsored research agreement with Pharmsynthez related to experiments identified by the Company to support its efforts as it prepares for initial tech transfer of the XCART methods to a future academic collaborator. Under the agreement, the Company made a \$350,000 payment to Pharmsynthez during the third quarter of 2019, which is refundable on a pro rata basis if the project is terminated prematurely as a result of Pharmsynthez failing to perform the work.

During the fourth quarter of 2019, the Company entered into a loan agreement with Pharmsynthez (the “Pharmsynthez Loan”), pursuant to which the Company shall advance Pharmsynthez an aggregate principal amount of up to \$500,000 to be used for the development of Product A under the Co-Development Agreement (as defined below). The Pharmsynthez Loan has a term of 15-months and shall accrue interest at a rate of 10% per annum. The Pharmsynthez Loan is guaranteed by all of the operating subsidiaries of Pharmsynthez, including SynBio and AS Kevelt, and is secured by all of the equity interests of the Company owned by Pharmsynthez and SynBio.

SynBio LLC

SynBio was a holder of more than 5% of the Company’s outstanding common stock during the last two completed fiscal years and currently owns approximately 1% of our total outstanding common stock as of October 25, 2019 and all of our outstanding Series A Preferred Stock. In 2017, SynBio became a wholly-owned subsidiary of Pharmsynthez.

In August 2011, SynBio and the Company entered into a stock subscription and collaborative development of pharmaceutical products agreement (the “Co-Development Agreement”). The Company granted an exclusive license to SynBio to develop pharmaceutical products using certain molecule(s) based on SynBio’s technology and the Company’s proprietary technology (PolyXen, OncoHist and ImuXen) that prolongs the active life and/or improves the pharmacokinetics of certain therapeutic proteins and peptides (as well as conventional drugs). In return, SynBio granted an exclusive license to the Company to use the pre-clinical and clinical data generated by SynBio in certain agreed products and engage in the development of commercial candidates.

SynBio and the Company are each responsible for funding their own research activities. There are no milestone or other research-related payments due under the agreement other than fees for the supply of each company’s respective research supplies based on their technology, which, when provided, are due to mutual convenience and not representative of an ongoing or recurring obligation to supply research supplies. Serum Institute of India Limited (“Serum Institute”) has agreed to directly provide the research supplies to SynBio, where the Company is not liable for any failure to supply the research supplies as a result of any act or fault of Serum Institute. Upon successful commercialization of any resultant products, the Company is entitled to receive royalties on sales in certain territories and pay royalties to SynBio for sales outside those certain territories.

Through December 31, 2018, the Company and SynBio continued to engage in research and development activities with no resultant commercial products. The Company did not recognize revenue in connection with the Co-Development Agreement during the years ended December 31, 2018 and 2017.

Serum Institute

Serum Institute was a holder of more than 5% of the Company's outstanding common stock during the last two completed fiscal years and currently owns approximately 1% of our total outstanding common stock at October 25, 2019. In addition to its common stock ownership, Serum Institute holds outstanding warrants to purchase our common stock. One of our directors, Firdaus Jal Dastoor, is currently a Group Director in charge of Finance and Corporate Affairs and Company Secretary of Serum Institute. In August 2011, we entered into a collaborative research and development agreement with Serum Institute providing Serum Institute an exclusive license to use our PolyXen technology to research and develop one potential commercial product, PSA-EPO. Serum Institute is responsible for conducting all preclinical and clinical trials required to achieve regulatory approvals within the certain predetermined territories at Serum Institute's own expense. Royalty payments are payable by Serum Institute to us for net sales to certain customers in the Serum Institute sales territory. Royalty payments are payable by us to Serum Institute for net sales received by us over the term of the license. There are no milestone or other research-related payments due under the collaborative arrangement.

Through December 31, 2018, we continued to engage in research and development activities with no resultant commercial products. No royalty revenue or expense was recognized by us related to the Serum Institute arrangement during the years ended December 31, 2018 and 2017.

Consulting Services Agreement with Dr. Dmitry Genkin; Santersus

Dr. Genkin provided research and consulting services to the Company, for which he was paid approximately \$50,000 during the year ended December 31, 2017. The agreement was terminated on July 31, 2017 prior to Dr. Genkin being reappointed to the Board in August 2017.

The Company intends to enter into a feasibility agreement and license option with Santersus SA, a Swiss corporation ("Santersus"), regarding the use of OncoHist in a medical device for extracorporeal blood purification. Santersus is an entity controlled by Dr. Genkin.

XCART Technology

On March 1, 2019, the Company entered into an agreement to acquire the novel Chimeric Antigen Receptor ("CAR") T cell platform technology, referred to herein as "XCART" (the "Transaction"), a proximity-based screening platform capable of identifying CAR constructs that can target patient-specific tumor neoantigens, with a demonstrated proof of mechanism in B-cell Non-Hodgkin lymphomas. The XCART technology, developed by the Scripps Research Institute (the "Institute") in collaboration with the Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry ("IBCH"), is believed to have the potential to significantly enhance the safety and efficacy of cell therapy for B-cell lymphomas by generating patient- and tumor-specific CAR T cells. The Transaction closed on July 19, 2019.

In connection with the Transaction, on March 1, 2019, the Company entered into the Share Purchase Agreement, as amended (the "Share Purchase Agreement"), with Hesperix S.A., a Swiss Corporation ("Hesperix"), the owners of Hesperix (each, a "Seller" and collectively, the "Sellers"), and Alexey Andreevich Vinogradov, as the representative of each Seller, pursuant to which the Company purchased from Sellers all of the issued and outstanding shares of capital stock of Hesperix. Upon closing the Transaction, on July 19, 2019, we issued 625,000 shares of our common stock in the Transaction, with approximately 406,250 shares issued to the shareholders of Hesperix and approximately 218,750 shares of common stock issued in connection with the OPKO Assignment Agreement. In connection with the Transaction, Dr. Alexey Vinogradov was appointed to the Board, effective as of the closing of the Transaction. Dr. Vinogradov acquired 186,781 shares of the Company's common stock in connection the closing of the transaction contemplated by the Share Purchase Agreement. Dr. Vinogradov was also a significant shareholder of Hesperix and a Seller in the Transaction. Additionally, Dr. Dmitry Genkin, one of our directors, was a director and significant shareholder of Hesperix. In addition, in connection with the Transaction, the Company agreed to repay an approximate \$225,000 loan that Dr. Genkin entered into with Hesperix.

In connection with the Transaction, Hesperix entered into an assignment agreement (the “Hesperix Assignment Agreement”) with IBCH, Pharmsynthez, and certain other parties thereto (collectively, the “Assignors”), pursuant to which, the Assignors have agreed, among other things, to sell, assign, transfer, and convey unto Hesperix all of their individual right, title, and interest throughout the world in and to patents related to “Articles And Methods Directed To Personalized Therapy Of Cancer,” and the related know-how. Hesperix has agreed to pay each of IBCH and Pharmsynthez a royalty rate in the low single digit range based on the net sales of products in each country in which, in absence of the Hesperix Assignment Agreement, the manufacture, use, offer for sale, sale, or importation of such product would infringe a valid claim of a patent. Dr. Dmitry Genkin, one of our directors, is the Executive Chairman of the board of directors of Pharmsynthez, and Dr. Grigory Borisenko, another one of our directors, is employed as the Investment Director of Rusnano LLC, an entity affiliated with Pharmsynthez. Additionally, one of our executive officers, Dr. Curtis Lockshin, is an officer of a wholly-owned subsidiary of Pharmsynthez.

Also in connection with the Transaction, the Company entered into an assignment agreement (the “OPKO Assignment Agreement”) with OPKO Pharmaceuticals, LLC (“OPKO”), pursuant to which the Company will acquire and accept, all of OPKO’s right, title and interest in and to that certain Intellectual Property License Agreement (the “IP License Agreement”), entered into between the Institute and OPKO regarding certain patents related to “Articles And Methods Directed To Personalized Therapy Of Cancer” and in which the Institute agreed to grant an exclusive royalty-bearing license, to the patent rights owned by the Institute to OPKO, and OPKO has agreed to pay the Institute a royalty rate in the low single digit range based on the net sales of products in each country in which, in absence of the IP License Agreement, the manufacture, use, offer for sale, sale, or importation of such product would infringe a valid claim of a patent or pending application. Mr. Adam Logal, one of our directors, is Senior Vice President, Chief Financial Officer, Chief Accounting Officer and Treasurer of OPKO Health, Inc., the parent company of OPKO.

Empery Asset Management

Empery Tax Efficient II, LP (“ETE II Fund”), Empery Asset Management, LP (“Empery Asset”), Ryan M. Lane, and Martin D. Hoe (collectively, “Empery Asset Management”) was a 5% stockholder during the Company’s 2019 fiscal year and owns less than 1% of our total outstanding common stock at October 25, 2019. On March 5, 2019, Empery Asset Management purchased 86,667 shares of our common stock, as well as pre-funded warrants to purchase 42,417 shares of our common stock resulting in net proceeds to the Company of \$2.7 million. In addition to its common stock and prefunded warrant ownership, on March 5, 2019, Empery Asset Management acquired warrants to purchase 129,084 shares of our common stock. On June 7, 2019, Empery Asset Management exercised the pre-funded warrants. On July 3, 2019, we issued Empery Asset Management warrants to purchase an additional 8,335 shares of common stock pursuant to a consent agreement entered into with the Company on June 24, 2019. On July 16, 2019, the Company issued Empery Asset Management 16,666 shares of the Company’s common stock pursuant to a consent agreement entered into with Company.

HOUSEHOLDING OF PROXY MATERIALS

The SEC has adopted rules that permit companies and intermediaries (e.g., brokers) to satisfy the delivery requirements for Annual Meeting materials with respect to two or more stockholders sharing the same address by delivering a single set of Annual Meeting materials addressed to those stockholders. This process, which is commonly referred to as “householding,” potentially means extra convenience for stockholders and cost savings for companies.

This year, a number of brokers with account holders who are the Company’s stockholders will be “householding” our proxy materials. A single set of Annual Meeting materials will be delivered to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders. Once you have received notice from your broker that they will be “householding” communications to your address, “householding” will continue until you are notified otherwise or until you revoke your consent. If, at any time, you no longer wish to participate in “householding” and would prefer to receive a separate set of Annual Meeting materials, please notify your broker or the Company. Direct your written request to Xenetic Biosciences, Inc., to the attention of our Corporate Secretary, 40 Speen Street, Suite 102, Framingham, Massachusetts 01701 or contact our Corporate Secretary at 781-778-7720. Stockholders who currently receive multiple copies of these materials at their addresses and would like to request “householding” of their communications should contact their brokers.

OTHER MATTERS

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

By Order of the Board of Directors

/s/ James Parslow

James Parslow
Secretary

November 8, 2019

A copy of the Company’s Annual Report to the Securities and Exchange Commission on Form 10-K for the fiscal year ended December 31, 2018, as amended, is available without charge upon written request to: Corporate Secretary, Xenetic Biosciences, Inc., 40 Speen Street, Suite 102, Framingham, Massachusetts 01701.

Appendix A

AMENDED AND RESTATED XENETIC BIOSCIENCES, INC. EQUITY INCENTIVE PLAN

~~ADOPTED BY THE BOARD: JANUARY 23, 2014~~
~~APPROVED BY THE STOCKHOLDERS: JANUARY 23, 2014~~
~~AMENDED AND RESTATED BY THE BOARD: OCTOBER 11, 2017~~
~~APPROVED BY THE STOCKHOLDERS: NOVEMBER 15, 2017~~
AMENDED AND RESTATED BY THE BOARD: SEPTEMBER 26, 2019
APPROVED BY THE STOCKHOLDERS: [_____], 2019

1. GENERAL.

(a) **Amended and Restated Plan.** This Plan amended and restates the Xenetic Biosciences, Inc. Equity Incentive Plan originally adopted by the Board on January 23, 2014 and approved by the Stockholders on January 23, 2014. The Plan was amended and restated effective October 11, 2017 and further amended and restated effective September 26, 2019. All Awards granted on or after 12:01 a.m. Eastern Standard Time on the Adoption Date will be subject to the terms of this Plan, as amended and restated hereby. Awards under the Plan granted prior to the Adoption Date shall continue to be subject to the applicable terms and conditions of the Plan in effect prior to such amendment and restatement.

(b) **Eligible Award Recipients.** Employees, Directors and Consultants are eligible to receive Awards.

(c) **Available Awards.** The Plan provides for the grant of the following types of Awards: (i) Incentive Stock Options; (ii) Nonstatutory Stock Options; (iii) Stock Appreciation Rights; (iv) Restricted Stock Awards; (v) Restricted Stock Unit Awards; (vi) Performance Stock Awards; (vii) Performance Cash Awards; and (viii) Other Stock Awards.

(d) **Purpose.** The Plan, through the granting of Awards, is intended to help the Company secure and retain the services of eligible award recipients, provide incentives for such persons to exert maximum efforts for the success of the Company and any Affiliate and provide a means by which the eligible recipients may benefit from increases in value of the Common Stock.

2. ADMINISTRATION.

(a) **Administration by Board.** The Board will administer the Plan. The Board may delegate administration of the Plan to a Committee or Committees, as provided in Section 2(c).

(b) **Powers of Board.** The Board will have the power, subject to, and within the limitations of, the express provisions of the Plan:

(i) To determine: (A) who will be granted Awards; (B) when and how each Award will be granted; (C) what type of Award will be granted; (D) the provisions of each Award (which need not be identical), including when a Participant will be permitted to exercise or otherwise receive cash or Common Stock under the Award; (E) the number of shares of Common Stock subject to, or the cash value of, an Award; and (F) the Fair Market Value applicable to a Stock Award.

(ii) To construe and interpret the Plan and Awards granted under it, and to establish, amend and revoke rules and regulations for administration of the Plan and Awards. The Board, in the exercise of these powers, may correct any defect, omission or inconsistency in the Plan or in any Award Agreement or in the written terms of a Performance Cash Award, in a manner and to the extent it will deem necessary or expedient to make the Plan or Award fully effective.

(iii) To settle all controversies regarding the Plan and Awards granted under it.

(iv) To accelerate, in whole or in part, the time at which an Award may be exercised or vest (or at which cash or shares of Common Stock may be issued).

(v) To suspend or terminate the Plan at any time. Except as otherwise provided in the Plan (including Section 2(b)(viii)) or an Award Agreement, suspension or termination of the Plan will not materially impair a Participant's rights under an outstanding Award without his or her written consent.

(vi) To amend the Plan in any respect the Board deems necessary or advisable, including, without limitation, by adopting amendments relating to Incentive Stock Options and certain nonqualified deferred compensation under Section 409A of the Code and/or to make the Plan or Awards granted under the Plan compliant with the requirements for Incentive Stock Options or exempt from or compliant with the requirements for nonqualified deferred compensation under Section 409A of the Code, subject to the limitations, if any, of applicable law. If required by applicable law or listing requirements, and except as provided in Section 9(a) relating to Capitalization Adjustments, the Company will seek stockholder approval of any amendment of the Plan that (A) materially increases the number of shares of Common Stock available for issuance under the Plan, (B) materially expands the class of individuals eligible to receive Awards under the Plan, (C) materially increases the benefits accruing to Participants under the Plan, (D) materially reduces the price at which shares of Common Stock may be issued or purchased under the Plan, (E) materially extends the term of the Plan, or (F) materially expands the types of Awards available for issuance under the Plan. Except as otherwise provided in the Plan (including Section 2(b)(viii)) or an Award Agreement, no amendment of the Plan will materially impair a Participant's rights under an outstanding Award without his or her written consent.

(vii) To submit any amendment to the Plan for stockholder approval, including, but not limited to, amendments to the Plan intended to satisfy the requirements of (A) ~~Section 162(m) of the Code regarding the exclusion of performance based compensation from the limit on corporate deductibility of compensation paid to Covered Employees,~~ (B) Section 422 of the Code regarding incentive stock options or (B) Rule 16b-3.

(viii) To approve forms of Award Agreements for use under the Plan and to amend the terms of any one or more outstanding Awards, including, but not limited to, amendments to provide terms more favorable to the Participant than previously provided in the Award Agreement, subject to any specified limits in the Plan that are not subject to Board discretion; *provided, however*, that except as otherwise provided in the Plan (including this Section 2(b)(viii)) or an Award Agreement, no amendment of an outstanding Award will materially impair a Participant's rights under such Award without his or her written consent.

Notwithstanding the foregoing or anything in the Plan to the contrary, unless prohibited by applicable law, the Board may amend the terms of any outstanding Award or the Plan, or may suspend or terminate the Plan, without the affected Participant's consent, (A) to maintain the qualified status of the Award as an Incentive Stock Option under Section 422 of the Code, (B) to change the terms of an Incentive Stock Option, if such change results in impairment of the Award solely because it impairs the qualified status of the Award as an Incentive Stock Option under Section 422 of the Code, (C) to clarify the manner of exemption from, or to bring the Award or the Plan into compliance with, Section 409A of the Code, or (D) to comply with other applicable laws or listing requirements. In addition, the Board shall make an equitable adjustment, without limitation, to reflect extraordinary, unusual or infrequently occurring events provided that no Award may be modified to reduce the outstanding exercise price of outstanding Options or cancel outstanding Options in exchange for cash or other Awards with an exercise price that is less than the exercise price of the original Option without shareholder approval, and subject to the requirements of Section 5(f), Section 6(a)(ii), Section 6(b)(ii), Section 6(c)(i), Section 6(c)(ii), Section 6(d) and, as applicable, Section 9.

(ix) Generally, to exercise such powers and to perform such acts as the Board deems necessary or expedient to promote the best interests of the Company and that are not in conflict with the provisions of the Plan or Awards.

(x) To adopt such procedures and sub-plans as are necessary or appropriate to permit participation in the Plan by Employees, Directors or Consultants who are foreign nationals or employed outside the United States (provided that Board approval will not be necessary for immaterial modifications to the Plan or any Award Agreement that are required for compliance with the laws of the relevant foreign jurisdiction).

(c) **Delegation to Committee.**

(i) **General.** The Board may delegate some or all of the administration of the Plan to a Committee or Committees. If administration of the Plan is delegated to a Committee, the Committee will have, in connection with the administration of the Plan, the powers theretofore possessed by the Board that have been delegated to the Committee, including the power to delegate to a subcommittee of the Committee any of the administrative powers the Committee is authorized to exercise (and references in this Plan to the Board will thereafter be to the Committee or subcommittee, as applicable). Any delegation of administrative powers will be reflected in resolutions, not inconsistent with the provisions of the Plan, adopted from time to time by the Board or Committee (as applicable). The Committee may, at any time, abolish the subcommittee and/or revest in the Committee any powers delegated to the subcommittee. The Board may retain the authority to concurrently administer the Plan with the Committee and may, at any time, revest in the Board some or all of the powers previously delegated.

(ii) **Section 162(m) and Rule 16b-3 Compliance Committee Composition.** The Committee may consist solely of two (2) or more Outside Directors, ~~in accordance with Section 162(m) of the Code,~~ or solely of two (2) or more Non-Employee Directors, in accordance with Rule 16b-3.

(d) **Delegation to an Officer.** The Board may delegate to one (1) or more Officers the authority to do one or both of the following: (i) designate Employees who are not Officers to be recipients of Options and SARs (and, to the extent permitted by applicable law, other Stock Awards) and, to the extent permitted by applicable law, the terms of such Awards; and (ii) determine the number of shares of Common Stock to be subject to such Stock Awards granted to such Employees; *provided, however,* that the Board resolutions regarding such delegation will specify the total number of shares of Common Stock that may be subject to the Stock Awards granted by such Officer and that such Officer may not grant a Stock Award to himself or herself. Any such Stock Awards will be granted on the form of Award Agreement most recently approved for use by the Committee or the Board, unless otherwise provided in the resolutions approving the delegation of authority. The Board may not delegate authority to an Officer who is acting solely in the capacity of an Officer (and not also as a Director) to determine the Fair Market Value pursuant to Section 13 (y)(iii).

(e) **Effect of Board's Decision.** All determinations, interpretations and constructions made by the Board in good faith will not be subject to review by any person and will be final, binding and conclusive on all persons.

(f) **Cancellation and Re-Grant of Stock Awards.** Neither the Board nor any Committee will have the authority to (i) reduce the exercise or strike price of any outstanding Option or SAR under the Plan or (ii) cancel any outstanding Option or SAR that has an exercise or strike price greater than the then-current Fair Market Value of the Common Stock in exchange for cash or other Stock Awards under the Plan, unless the stockholders of the Company have approved such an action within twelve (12) months prior to such an event.

(g) **Dividends and Dividend Equivalents.** Dividends or dividend equivalents may be paid or credited, as applicable, with respect to any shares of Common Stock subject to an Award, as determined by the Board and contained in the applicable Award Agreement; *provided, however,* that (i) no dividends or dividend equivalents may be paid with respect to any such shares before the date such shares have vested under the terms of such Award Agreement, (ii) any dividends or dividend equivalents that are credited with respect to any such shares will be subject to all of the terms and conditions applicable to such shares under the terms of such Award Agreement (including, but not limited to, any vesting conditions), and (iii) any dividends or dividend equivalents that are credited with respect to any such shares will be forfeited to the Company on the date, if any, such shares are forfeited to or repurchased by the Company due to a failure to meet any vesting conditions under the terms of such Award Agreement.

3. **SHARES SUBJECT TO THE PLAN.**

(a) **Share Reserve.**

(i) Subject to Section 9(a) relating to Capitalization Adjustments, the aggregate number of shares of Common Stock that may be issued pursuant to Stock Awards from and after the Effective Date will not exceed ~~three million, three hundred and three thousand and one hundred thirty one shares~~ ~~one million twenty-five thousand, six hundred and thirty six~~ ~~(3,307,631)~~ 1,025,636 (which number is the sum of and includes (i) the number of shares subject to outstanding Stock Awards as of the Adoption Date, (ii) the number of shares available for issuance under the Plan prior to amendment and restatement hereby, as of the Adoption Date, and (iii) an additional ~~two million seven hundred and fifty thousand~~ ~~(2,007,500)~~ shares (the "*Share Reserve*"), all of which may be issued pursuant to the exercise of Incentive Stock Options.

(ii) For clarity, the Share Reserve in this Section 3(a) is a limitation on the number of shares of Common Stock that may be issued pursuant to the Plan. Accordingly, this Section 3(a) does not limit the granting of Stock Awards except as provided in Section 7(a). Shares may be issued in connection with a merger or acquisition as permitted by NASDAQ Listing Rule 5635(c) or, if applicable, NYSE Listed Company Manual Section 303A.08, AMEX Company Guide Section 711 or other applicable rule, and such issuance will not reduce the number of shares available for issuance under the Plan.

(b) Reversion of Shares to the Share Reserve.

(i) **Shares Available For Subsequent Issuance.** The following shares of Common Stock (collectively, the “*Returning Shares*”) will become available again for issuance under the Plan: (A) any shares subject to a Stock Award that are not issued because such Stock Award or any portion thereof expires or otherwise terminates without all of the shares covered by such Stock Award having been issued; ~~and (B) any shares subject to a Stock Award that are not issued because such Stock Award or any portion thereof is settled in cash; and~~ (C) any shares issued pursuant to a Stock Award that are forfeited back to or repurchased by the Company because of the failure to meet a contingency or condition required for the vesting of such shares.

(ii) **Shares Not Available For Subsequent Issuance.** The following shares of Common Stock will not become available again for issuance under the Plan: (A) any shares that are reacquired or withheld (or not issued) by the Company to satisfy the exercise or purchase price of a Stock Award granted under the Plan (including any shares subject to such award that are not delivered because such award is exercised through a reduction of shares subject to such award (*i.e.*, “net exercised”)); (B) any shares that are reacquired or withheld (or not issued) by the Company to satisfy a tax withholding obligation in connection with a Stock Award granted under the Plan; (C) any shares repurchased by the Company on the open market with the proceeds of the exercise or purchase price of a Stock Award granted under the Plan; and (D) in the event that a SAR granted under the Plan is settled in shares of Common Stock, the gross number of shares of Common Stock subject to such award.

~~(c) **Incentive Stock Option Limit.** Subject to the Share Reserve and Section 9(a) relating to Capitalization Adjustments, the aggregate maximum number of shares of Common Stock that may be issued pursuant to the exercise of Incentive Stock Options will be four million (4,000,000) shares of Common Stock.~~

~~(d) **Section 162(m) Limitations.** Subject to the Share Reserve and Section 9(a) relating to Capitalization Adjustments, at such time as the Company may be subject to the applicable provisions of Section 162(m) of the Code, the following limitations will apply.~~

~~(i) A maximum of seven hundred fifty thousand (750,000) shares of Common Stock subject to Options and SARs whose value is determined by reference to an increase over an exercise or strike price of at least one hundred percent (100%) of the Fair Market Value on the date any such Option or SAR is granted may be granted to any one Participant during any one calendar year. Notwithstanding the foregoing, if any additional Options or SARs whose value is determined by reference to an increase over an exercise or strike price of at least one hundred percent (100%) of the Fair Market Value on the date the Option or SAR is granted are granted to any Participant during any calendar year, compensation attributable to the exercise of any such additional Option or SAR will not satisfy the requirements to be considered “qualified performance-based compensation” under Section 162(m) of the Code unless such additional Option or SAR is approved by the Company’s stockholders.~~

~~(ii) A maximum of seven hundred fifty thousand (750,000) shares of Common Stock subject to Performance Stock Awards may be granted to any one Participant during any one calendar year (whether the grant, vesting or exercise is contingent upon the attainment during the Performance Period of the Performance Goals).~~

~~(iii) A maximum of five million dollars (\$5,000,000) subject to Performance Cash Awards may be granted to any one Participant during any one calendar year.~~

~~For purposes of this Section 3(d): (1) if a Performance Stock Award is in the form of an Option or SAR, it will count only against the Performance Stock Award limit set forth in Section 3(d)(i); (2) if a Performance Stock Award may be paid in the form of cash, it will count only against the Performance Stock Award limit set forth in Section 3(d)(ii); and (3) if a Performance Cash Award may be paid in the form of Common Stock, it will count only against the Performance Cash Award limit set forth in Section 3(d)(iii).~~

(c) **Non-Employee Director Compensation Limit.** The maximum number of shares of Common Stock subject to Stock Awards granted during any one calendar year to any Non-Employee Director (other than a director not on the Board at the time of the grant), taken together with any cash fees paid by the Company to such Non-Employee Director during such calendar year, will not exceed five hundred thousand dollars (\$500,000) in total value (calculating the value of any such Stock Awards based on the grant date fair value of such Stock Awards for financial reporting purposes).

(d) **Source of Shares.** The stock issuable under the Plan will be shares of authorized but unissued or reacquired Common Stock, including shares repurchased by the Company on the open market or otherwise.

4. ELIGIBILITY.

(a) **Eligibility for Specific Stock Awards.** Incentive Stock Options may be granted only to employees of the Company or a “parent corporation” or “subsidiary corporation” thereof (as such terms are defined in Sections 424(e) and 424(f) of the Code). Stock Awards other than Incentive Stock Options may be granted to Employees, Directors and Consultants; *provided, however*, that Stock Awards may not be granted to Employees, Directors and Consultants who are providing Continuous Service only to any “parent” of the Company, as such term is defined in Rule 405, unless (i) the stock underlying such Stock Awards is treated as “service recipient stock” under Section 409A of the Code (for example, because the Stock Awards are granted pursuant to a corporate transaction such as a spin off transaction) or (ii) the Company, in consultation with its legal counsel, has determined that such Stock Awards are otherwise exempt from or alternatively comply with Section 409A of the Code.

(b) **Ten Percent Stockholders.** A Ten Percent Stockholder will not be granted an Incentive Stock Option unless the exercise price of such Option is at least one hundred ten percent (110%) of the Fair Market Value on the date of grant and the Option is not exercisable after the expiration of five (5) years from the date of grant.

5. PROVISIONS RELATING TO OPTIONS AND STOCK APPRECIATION RIGHTS.

Each Option or SAR Agreement will be in such form and will contain such terms and conditions as the Board deems appropriate. All Options will be separately designated Incentive Stock Options or Nonstatutory Stock Options at the time of grant, and, if certificates are issued, a separate certificate or certificates will be issued for shares of Common Stock purchased on exercise of each type of Option. If an Option is not specifically designated as an Incentive Stock Option, or if an Option is designated as an Incentive Stock Option but some portion or all of the Option fails to qualify as an Incentive Stock Option under the applicable rules, then the Option (or portion thereof) will be a Nonstatutory Stock Option. The terms and conditions of separate Option or SAR Agreements need not be identical; *provided, however*, that each Award Agreement will conform to (through incorporation of the provisions hereof by reference in the applicable Award Agreement or otherwise) the substance of each of the following provisions:

(a) **Term.** Subject to the provisions of Section 4(b) regarding Ten Percent Stockholders, no Option or SAR will be exercisable after the expiration of ten (10) years from the date of its grant or such shorter period specified in the Award Agreement.

(b) **Exercise Price.** Subject to the provisions of Section 4(b) regarding Ten Percent Stockholders, the exercise or strike price of each Option or SAR will be not less than one hundred percent (100%) of the Fair Market Value of the Common Stock subject to the Option or SAR on the date the Award is granted. Notwithstanding the foregoing, an Option or SAR may be granted with an exercise or strike price lower than one hundred percent (100%) of the Fair Market Value of the Common Stock subject to the Award if such Award is granted pursuant to an assumption of or substitution for another option or stock appreciation right pursuant to a Corporate Transaction and in a manner consistent with the provisions of Section 409A of the Code and, if applicable, Section 424(a) of the Code. Each SAR will be denominated in shares of Common Stock equivalents.

(c) **Purchase Price for Options.** The purchase price of Common Stock acquired pursuant to the exercise of an Option may be paid, to the extent permitted by applicable law and as determined by the Board in its sole discretion, by any combination of the methods of payment set forth below. The Board will have the authority to grant Options that do not permit all of the following methods of payment (or that otherwise restrict the ability to use certain methods) and to grant Options that require the consent of the Company to use a particular method of payment. The permitted methods of payment are as follows:

- (i) by cash (including electronic funds transfers), check, bank draft or money order payable to the Company;
- (ii) pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of the stock subject to the Option, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds;
- (iii) by delivery to the Company (either by actual delivery or attestation) of shares of Common Stock;
- (iv) if an Option is a Nonstatutory Stock Option, by a “net exercise” arrangement pursuant to which the Company will reduce the number of shares of Common Stock issuable upon exercise by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price; *provided, however*, that the Company will accept a cash or other payment from the Participant to the extent of any remaining balance of the aggregate exercise price not satisfied by such reduction in the number of whole shares to be issued. Shares of Common Stock will no longer be subject to an Option and will not be exercisable thereafter to the extent that (A) shares issuable upon exercise are used to pay the exercise price pursuant to the “net exercise,” (B) shares are delivered to the Participant as a result of such exercise, and (C) shares are withheld to satisfy tax withholding obligations; or
- (v) in any other form of legal consideration that may be acceptable to the Board and specified in the applicable Award Agreement.

(d) Exercise and Payment of a SAR. To exercise any outstanding SAR, the Participant must provide written notice of exercise to the Company in compliance with the provisions of the Award Agreement evidencing such SAR. The appreciation distribution payable on the exercise of a SAR will be not greater than an amount equal to the excess of (A) the aggregate Fair Market Value (on the date of the exercise of the SAR) of a number of shares of Common Stock equal to the number of Common Stock equivalents in which the Participant is vested under such SAR, and with respect to which the Participant is exercising the SAR on such date, over (B) the aggregate strike price of the number of Common Stock equivalents with respect to which the Participant is exercising the SAR on such date. The appreciation distribution may be paid in Common Stock, in cash, in any combination of the two or in any other form of consideration, as determined by the Board and contained in the Award Agreement evidencing such SAR.

(e) Transferability of Options and SARs. The Board may, in its sole discretion, impose such limitations on the transferability of Options and SARs as the Board will determine. In the absence of such a determination by the Board to the contrary, the following restrictions on the transferability of Options and SARs will apply:

(i) Restrictions on Transfer. An Option or SAR will not be transferable, except by will or by the laws of descent and distribution (or pursuant to Sections 5(e)(ii) and 5(e)(iii)), and will be exercisable during the lifetime of the Participant only by the Participant. The Board may permit transfer of the Option or SAR in a manner that is not prohibited by applicable tax and securities laws. Except as explicitly provided in the Plan, neither an Option nor a SAR may be transferred for consideration.

(ii) Domestic Relations Orders. Subject to the approval of the Board or a duly authorized Officer, an Option or SAR may be transferred pursuant to the terms of a domestic relations order, official marital settlement agreement or other divorce or separation instrument as permitted by Treasury Regulations Section 1.421-1(b)(2). If an Option is an Incentive Stock Option, such Option may be deemed to be a Nonstatutory Stock Option as a result of such transfer.

(iii) Beneficiary Designation. Subject to the approval of the Board or a duly authorized Officer, a Participant may, by delivering written notice to the Company, in a form approved by the Company (or the designated broker), designate a third party who, upon the death of the Participant, will thereafter be entitled to exercise the Option or SAR and receive the Common Stock or other consideration resulting from such exercise. In the absence of such a designation, upon the death of the Participant, the executor or administrator of the Participant’s estate will be entitled to exercise the Option or SAR and receive the Common Stock or other consideration resulting from such exercise. However, the Company may prohibit designation of a beneficiary at any time, including due to any conclusion by the Company that such designation would be inconsistent with the provisions of applicable laws.

(f) **Vesting Generally.** The total number of shares of Common Stock subject to an Option or SAR may vest and become exercisable in periodic installments that may or may not be equal. The Option or SAR may be subject to such other terms and conditions on the time or times when it may or may not be exercised (which may be based on the satisfaction of Performance Goals or other criteria) as the Board may deem appropriate. The vesting provisions of individual Options or SARs may vary. The provisions of this Section 5(f) are subject to any Option or SAR provisions governing the minimum number of shares of Common Stock as to which an Option or SAR may be exercised. No Option or SAR shall vest over a period that is less than one (1) year from the date of grant. Notwithstanding the foregoing, Awards representing up to five percent (5%) of the shares of Common Stock in the aggregate share reserve set forth in Section 3(a), as of the Effective Date, may be granted without being subject to the minimum vesting restrictions in this Section 5(f), Section 6(a)(ii), Section 6(b)(ii), Section 6(c)(i), Section 6(c)(ii), and Section 6(d).

(g) **Termination of Continuous Service.** Except as otherwise provided in the applicable Award Agreement or other written agreement between a Participant and the Company or an Affiliate, if a Participant's Continuous Service terminates (other than for Cause and other than upon the Participant's death or Disability), the Participant may exercise his or her Option or SAR (to the extent that the Participant was entitled to exercise such Option or SAR as of the date of termination of Continuous Service), but only within such period of time ending on the earlier of (i) the date that is three (3) months following such termination of Continuous Service (or such longer or shorter period specified in the Award Agreement), and (ii) the expiration of the term of the Option or SAR as set forth in the Award Agreement. If, after such termination of Continuous Service, the Participant does not exercise his or her Option or SAR (as applicable) within the applicable time frame, the Option or SAR (as applicable) will terminate.

(h) **Extension of Termination Date.** Except as otherwise provided in the applicable Award Agreement or other written agreement between a Participant and the Company or an Affiliate, if the exercise of an Option or SAR following the termination of a Participant's Continuous Service (other than for Cause and other than upon the Participant's death or Disability) would be prohibited at any time solely because the issuance of shares of Common Stock would violate the registration requirements under the Securities Act, then the Option or SAR will terminate on the earlier of (i) the expiration of a total period of time (that need not be consecutive) equal to the applicable post-termination exercise period after the termination of the Participant's Continuous Service during which the exercise of the Option or SAR would not be in violation of such registration requirements, or (ii) the expiration of the term of the Option or SAR as set forth in the applicable Award Agreement. In addition, except as otherwise provided in the applicable Award Agreement or other written agreement between a Participant and the Company or an Affiliate, if the sale of any Common Stock received upon exercise of an Option or SAR following the termination of a Participant's Continuous Service (other than for Cause) would violate the Company's insider trading policy, then the Option or SAR will terminate on the earlier of (i) the expiration of a total period of time (that need not be consecutive) equal to the applicable post-termination exercise period after the termination of the Participant's Continuous Service during which the sale of the Common Stock received upon exercise of the Option or SAR would not be in violation of the Company's insider trading policy, or (ii) the expiration of the term of the Option or SAR as set forth in the applicable Award Agreement.

(i) **Disability of Participant.** Except as otherwise provided in the applicable Award Agreement or other written agreement between a Participant and the Company or an Affiliate, if a Participant's Continuous Service terminates as a result of the Participant's Disability, the Participant may exercise his or her Option or SAR (to the extent that the Participant was entitled to exercise such Option or SAR as of the date of termination of Continuous Service), but only within such period of time ending on the earlier of (i) the date that is twelve (12) months following such termination of Continuous Service (or such longer or shorter period specified in the Award Agreement), and (ii) the expiration of the term of the Option or SAR as set forth in the Award Agreement. If, after such termination of Continuous Service, the Participant does not exercise his or her Option or SAR (as applicable) within the applicable time frame, the Option or SAR (as applicable) will terminate.

(j) **Death of Participant.** Except as otherwise provided in the applicable Award Agreement or other written agreement between a Participant and the Company or an Affiliate, if (i) a Participant's Continuous Service terminates as a result of the Participant's death, or (ii) a Participant dies within the period (if any) specified in the Award Agreement for exercisability after the termination of the Participant's Continuous Service (for a reason other than death), then the Participant's Option or SAR may be exercised (to the extent that the Participant was entitled to exercise such Option or SAR as of the date of death) by the Participant's estate, by a person who acquired the right to exercise the Option or SAR by bequest or inheritance, or by a person designated to exercise the Option or SAR upon the Participant's death, but only within such period of time ending on the earlier of (i) the date that is eighteen (18) months following the date of death (or such longer or shorter period specified in the Award Agreement), and (ii) the expiration of the term of the Option or SAR as set forth in the Award Agreement. If, after the Participant's death, the Option or SAR (as applicable) is not exercised within the applicable time frame, the Option or SAR (as applicable) will terminate.

(k) Termination for Cause. Except as explicitly provided otherwise in the applicable Award Agreement or other individual written agreement between a Participant and the Company or an Affiliate, if a Participant's Continuous Service is terminated for Cause, the Participant's Option or SAR will terminate immediately upon such termination of Continuous Service, and the Participant will be prohibited from exercising his or her Option or SAR from and after the time of such termination of Continuous Service.

(l) Non-Exempt Employees. If an Option or SAR is granted to an Employee who is a non-exempt employee for purposes of the Fair Labor Standards Act of 1938, as amended, the Option or SAR will not be first exercisable for any shares of Common Stock until at least six (6) months following the date of grant of the Option or SAR (although the Award may vest prior to such date). Consistent with the provisions of the Worker Economic Opportunity Act, (i) if such non-exempt employee dies or suffers a Disability, (ii) upon a Corporate Transaction in which such Option or SAR is not assumed, continued or substituted, (iii) upon a Change in Control, or (iv) upon the Participant's retirement (as such term may be defined in the Participant's Award Agreement, in another written agreement between the Participant and the Company or an Affiliate, or, if no such definition, in accordance with the Company's then current employment policies and guidelines), the vested portion of any Options and SARs may be exercised earlier than six (6) months following the date of grant. The foregoing provision is intended to operate so that any income derived by a non-exempt employee in connection with the exercise or vesting of an Option or SAR will be exempt from his or her regular rate of pay. To the extent permitted and/or required for compliance with the Worker Economic Opportunity Act to ensure that any income derived by a non-exempt employee in connection with the exercise, vesting or issuance of any shares under any other Stock Award will be exempt from the employee's regular rate of pay, the provisions of this Section 5(l) will apply to all Stock Awards and are hereby incorporated by reference into such Stock Award Agreements.

6. PROVISIONS OF STOCK AWARDS OTHER THAN OPTIONS AND SARs.

(a) Restricted Stock Awards. Each Restricted Stock Award Agreement will be in such form and will contain such terms and conditions as the Board deems appropriate. To the extent consistent with the Company's bylaws, at the Board's election, shares of Common Stock underlying a Restricted Stock Award may be (i) held in book entry form subject to the Company's instructions until any restrictions relating to the Restricted Stock Award lapse, or (ii) evidenced by a certificate, which certificate will be held in such form and manner as determined by the Board. The terms and conditions of separate Restricted Stock Award Agreements need not be identical; *provided, however*, that each Restricted Stock Award Agreement will conform to (through incorporation of the provisions hereof by reference in the applicable Award Agreement or otherwise) the substance of each of the following provisions:

(i) Consideration. A Restricted Stock Award may be awarded in consideration for (A) cash (including electronic funds transfers), check, bank draft or money order payable to the Company, (B) past services to the Company or an Affiliate, or (C) any other form of legal consideration (including future services) that may be acceptable to the Board, in its sole discretion, and permissible under applicable law.

(ii) Vesting. Shares of Common Stock awarded under a Restricted Stock Award Agreement may be subject to forfeiture to or repurchase by the Company in accordance with a vesting schedule to be determined by the Board. No Shares of Common Stock awarded under a Restricted Stock Award Agreement shall vest over a period that is less than one (1) year from the date of grant. Notwithstanding the foregoing, Awards representing up to five percent (5%) of the shares of Common Stock in the aggregate share reserve set forth in Section 3(a), as of the Effective Date, may be granted without being subject to the minimum vesting restrictions in Section 5(f), this Section 6(a)(ii), Section 6(b)(ii), Section 6(c)(i), Section 6(c)(ii), and Section 6(d).

(iii) Termination of Continuous Service. If a Participant's Continuous Service terminates, the Company may receive through a forfeiture condition or a repurchase right any or all of the shares of Common Stock held by the Participant that have not vested as of the date of such termination under the terms of the Participant's Restricted Stock Award Agreement.

(iv) Transferability. Rights to acquire shares of Common Stock under a Restricted Stock Award Agreement will be transferable by the Participant only upon such terms and conditions as are set forth in the Restricted Stock Award Agreement, as the Board will determine in its sole discretion, so long as Common Stock awarded under the Restricted Stock Award Agreement remains subject to the terms of the Restricted Stock Award Agreement.

(b) Restricted Stock Unit Awards. Each Restricted Stock Unit Award Agreement will be in such form and will contain such terms and conditions as the Board deems appropriate. The terms and conditions of separate Restricted Stock Unit Award Agreements need not be identical; *provided, however*, that each Restricted Stock Unit Award Agreement will conform to (through incorporation of the provisions hereof by reference in the applicable Award Agreement or otherwise) the substance of each of the following provisions:

(i) Consideration. At the time of grant of a Restricted Stock Unit Award, the Board will determine the consideration, if any, to be paid by the Participant upon delivery of each share of Common Stock subject to the Restricted Stock Unit Award. The consideration to be paid (if any) by the Participant for each share of Common Stock subject to a Restricted Stock Unit Award may be paid in any form of legal consideration that may be acceptable to the Board, in its sole discretion, and permissible under applicable law.

(ii) Vesting. At the time of the grant of a Restricted Stock Unit Award, the Board may impose such restrictions on or conditions to the vesting of the Restricted Stock Unit Award as it, in its sole discretion, deems appropriate. No Restricted Stock Unit Award shall vest over a period that is less than one (1) year from the date of grant. Notwithstanding the foregoing, Awards representing up to five percent (5%) of the shares of Common Stock in the aggregate share reserve set forth in Section 3(a), as of the Effective Date, may be granted without being subject to the minimum vesting restrictions in Section 5(f), Section 6(a)(ii), this Section 6(b)(ii), Section 6(c)(i), Section 6(c)(ii), and Section 6(d).

(iii) Payment. A Restricted Stock Unit Award may be settled by the delivery of shares of Common Stock, their cash equivalent, any combination thereof or in any other form of consideration, as determined by the Board and contained in the Restricted Stock Unit Award Agreement.

(iv) Additional Restrictions. At the time of the grant of a Restricted Stock Unit Award, the Board, as it deems appropriate, may impose such restrictions or conditions that delay the delivery of the shares of Common Stock (or their cash equivalent) subject to the Restricted Stock Unit Award to a time after the vesting of the Restricted Stock Unit Award.

(v) Termination of Continuous Service. Except as otherwise provided in the applicable Restricted Stock Unit Award Agreement or other written agreement between a Participant and the Company or an Affiliate, if a Participant's Continuous Service terminates, any portion of the Participant's Restricted Stock Unit Award that has not vested as of the date of such termination will be forfeited upon such termination.

(c) Performance Awards.

(i) Performance Stock Awards. A Performance Stock Award is a Stock Award (covering a number of shares not in excess of that set forth in Section 3(d)(ii)) that is payable (including that may be granted, vest or be exercised) contingent upon the attainment during a Performance Period of specified Performance Goals. A Performance Stock Award may, but need not, require the Participant's completion of a specified period of Continuous Service. The length of any Performance Period, the Performance Goals to be achieved during the Performance Period, and the measure of whether and to what degree such Performance Goals have been attained will be conclusively determined by the ~~Committee (or, to the extent that an Award is not intended to qualify as "performance-based compensation" under Section 162(m) of the Code, the~~ Board or the Committee), in its sole discretion. In addition, to the extent permitted by applicable law and the applicable Award Agreement, the Board or the Committee may determine that cash may be used in payment of Performance Stock Awards. No Performance Stock Award shall vest over a period that is less than one (1) year from the date of grant Notwithstanding the foregoing, Awards representing up to five percent (5%) of the shares of Common Stock in the aggregate share reserve set forth in Section 3(a), as of the Effective Date, may be granted without being subject to the minimum vesting restrictions in Section 5(f), Section 6(a)(ii), Section 6(b)(ii), this Section 6(c)(i), Section 6(c)(ii), and Section 6(d).

(ii) Performance Cash Awards. A Performance Cash Award is a cash award (for a dollar value not in excess of that set forth in Section 3(d)(iii)) that is payable contingent upon the attainment during a Performance Period of specified Performance Goals. A Performance Cash Award may, but need not, require the Participant's completion of a specified period of Continuous Service. The length of any Performance Period, the Performance Goals to be achieved during the Performance Period, and the measure of whether and to what degree such Performance Goals have been attained will be conclusively determined by ~~the Committee (or, to the extent that an Award is not intended to qualify as "performance-based compensation" under Section 162(m) of the Code,~~ the Board or the Committee), in its sole discretion. The Board or the Committee may specify the form of payment of Performance Cash Awards, which may be cash or other property, or may provide for a Participant to have the option for his or her Performance Cash Award, or such portion thereof as the Board or the Committee may specify, to be paid in whole or in part in cash or other property. No Performance Cash Award shall vest over a period that is less than one (1) year from the date of grant Notwithstanding the foregoing, Awards representing up to five percent (5%) of the shares of Common Stock in the aggregate share reserve set forth in Section 3(a), as of the Effective Date, may be granted without being subject to the minimum vesting restrictions in Section 5(f), Section 6(a)(ii), Section 6(b)(ii), Section 6(c)(i), this Section 6(c)(ii), and Section 6(d).

(iii) **Committee and Board Discretion.** With respect to any Performance Stock Award or Performance Cash Award, the ~~Committee (or, to the extent that an Award is not intended to qualify as “performance-based compensation” under Section 162(m) of the Code, the~~ Board or the Committee) retains the discretion to (A) reduce or eliminate the compensation or economic benefit due upon attainment of the Performance Goals on the basis of any considerations as the Committee or Board (as applicable), in its sole discretion, may determine and (B) define the manner of calculating the Performance Criteria it selects to use for a Performance Period.

(iv) ~~Section 162(m) Compliance~~**Performance Goals.** With respect to any Performance Award ~~intended to qualify as “performance-based compensation” under Section 162(m) of the Code, unless otherwise permitted under Section 162(m) of the Code,~~ the Committee will establish the Performance Goals applicable to, and the formula for calculating the amount payable under, the Award no later than the earlier of (A) the date ninety (90) days after the commencement of the applicable Performance Period, and (B) the date on which twenty-five percent (25%) of the Performance Period has elapsed, and in any event at a time when the achievement of the applicable Performance Goals remains substantially uncertain. Prior to the payment of any compensation under an Award ~~intended to qualify as “performance-based compensation” under Section 162(m) of the Code,~~ the Committee will ~~certify~~ determine the extent to which any Performance Goals and any other material terms under such Award have been satisfied (other than in cases where such Performance Goals or terms relate solely to the increase in the value of the Common Stock).

(d) **Other Stock Awards.** Other forms of Stock Awards valued in whole or in part by reference to, or otherwise based on, Common Stock, including the appreciation in value thereof (*e.g.*, options or stock appreciation rights with an exercise price or strike price less than one hundred percent (100%) of the Fair Market Value of the Common Stock at the time of grant) may be granted either alone or in addition to Stock Awards granted under Section 5 and this Section 6. Subject to the provisions of the Plan (including, but not limited to, 2(h)), the Board will have sole and complete authority to determine the persons to whom and the time or times at which such Other Stock Awards will be granted, the number of shares of Common Stock (or the cash equivalent thereof) to be granted pursuant to such Other Stock Awards and all other terms and conditions of such Other Stock Awards. No Other Stock Award shall vest over a period that is less than one (1) year from the date of grant Notwithstanding the foregoing, Awards representing up to five percent (5%) of the shares of Common Stock in the aggregate share reserve set forth in Section 3(a), as of the Effective Date, may be granted without being subject to the minimum vesting restrictions in Section 5(f), Section 6(a)(ii), Section 6(b)(ii), Section 6(c)(i), Section 6(c)(ii), and this Section 6(d).

7. COVENANTS OF THE COMPANY.

(a) **Availability of Shares.** The Company will keep available at all times the number of shares of Common Stock reasonably required to satisfy then-outstanding Stock Awards.

(b) **Securities Law Compliance.** The Company will seek to obtain from each regulatory commission or agency having jurisdiction over the Plan the authority required to grant Stock Awards and to issue and sell shares of Common Stock upon exercise of the Stock Awards; *provided, however,* that this undertaking will not require the Company to register under the Securities Act the Plan, any Stock Award or any Common Stock issued or issuable pursuant to any such Stock Award. If, after reasonable efforts and at a reasonable cost, the Company is unable to obtain from any such regulatory commission or agency the authority that counsel for the Company deems necessary for the lawful issuance and sale of Common Stock under the Plan, the Company will be relieved from any liability for failure to issue and sell Common Stock upon exercise of such Stock Awards unless and until such authority is obtained. A Participant will not be eligible for the grant of an Award or the subsequent issuance of cash or Common Stock pursuant to the Award if such grant or issuance would be in violation of any applicable securities law.

(c) **No Obligation to Notify or Minimize Taxes.** The Company will have no duty or obligation to any Participant to advise such holder as to the time or manner of exercising a Stock Award. Furthermore, the Company will have no duty or obligation to warn or otherwise advise such holder of a pending termination or expiration of an Award or a possible period in which the Award may not be exercised. The Company has no duty or obligation to minimize the tax consequences of an Award to the holder of such Award.

8. MISCELLANEOUS.

(a) **Use of Proceeds from Sales of Common Stock.** Proceeds from the sale of shares of Common Stock issued pursuant to Stock Awards will constitute general funds of the Company.

(b) **Corporate Action Constituting Grant of Awards.** Corporate action constituting a grant by the Company of an Award to any Participant will be deemed completed as of the date of such corporate action, unless otherwise determined by the Board, regardless of when the instrument, certificate or letter evidencing the Award is communicated to, or actually received or accepted by, the Participant. In the event that the corporate records (*e.g.*, Board consents, resolutions or minutes) documenting the corporate action constituting the grant contain terms (*e.g.*, exercise price, vesting schedule or number of shares) that are inconsistent with those in the Award Agreement or related grant documents as a result of a clerical error in the papering of the Award Agreement or related grant documents, the corporate records will control and the Participant will have no legally binding right to the incorrect term in the Award Agreement or related grant documents.

(c) **Stockholder Rights.** No Participant will be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Common Stock subject to an Award unless and until (i) such Participant has satisfied all requirements for exercise of, or the issuance of shares of Common Stock under, the Award pursuant to its terms, and (ii) the issuance of the Common Stock subject to such Award has been entered into the books and records of the Company.

(d) **No Employment or Other Service Rights.** Nothing in the Plan, any Award Agreement or any other instrument executed thereunder or in connection with any Award granted pursuant thereto will confer upon any Participant any right to continue to serve the Company or an Affiliate in the capacity in effect at the time the Award was granted or will affect the right of the Company or an Affiliate to terminate (i) the employment of an Employee with or without notice and with or without cause, (ii) the service of a Consultant pursuant to the terms of such Consultant's agreement with the Company or an Affiliate, or (iii) the service of a Director pursuant to the bylaws of the Company or an Affiliate, and any applicable provisions of the corporate law of the state in which the Company or the Affiliate is incorporated, as the case may be.

(e) **Change in Time Commitment.** In the event a Participant's regular level of time commitment in the performance of his or her services for the Company or any Affiliate is reduced (for example, and without limitation, if the Participant is an Employee of the Company and the Employee has a change in status from a full-time Employee to a part-time Employee or takes an extended leave of absence) after the date of grant of any Award to the Participant, the Board has the right in its sole discretion to (i) make a corresponding reduction in the number of shares or cash amount subject to any portion of such Award that is scheduled to vest or become payable after the date of such change in time commitment, and (ii) in lieu of or in combination with such a reduction, extend the vesting or payment schedule applicable to such Award. In the event of any such reduction, the Participant will have no right with respect to any portion of the Award that is so reduced or extended.

(f) **Incentive Stock Option Limitations.** To the extent that the aggregate Fair Market Value (determined at the time of grant) of Common Stock with respect to which Incentive Stock Options are exercisable for the first time by any Participant during any calendar year (under all plans of the Company and any Affiliates) exceeds one hundred thousand dollars (\$100,000) (or such other limit established in the Code) or otherwise does not comply with the rules governing Incentive Stock Options, the Options or portions thereof that exceed such limit (according to the order in which they were granted) or otherwise do not comply with such rules will be treated as Nonstatutory Stock Options, notwithstanding any contrary provision of the applicable Option Agreement(s).

(g) **Investment Assurances.** The Company may require a Participant, as a condition of exercising or acquiring Common Stock under any Award, (i) to give written assurances satisfactory to the Company as to the Participant's knowledge and experience in financial and business matters and/or to employ a purchaser representative reasonably satisfactory to the Company who is knowledgeable and experienced in financial and business matters and that he or she is capable of evaluating, alone or together with the purchaser representative, the merits and risks of exercising the Award, and (ii) to give written assurances satisfactory to the Company stating that the Participant is acquiring Common Stock subject to the Award for the Participant's own account and not with any present intention of selling or otherwise distributing the Common Stock. The foregoing requirements, and any assurances given pursuant to such requirements, will be inoperative if (A) the issuance of the shares upon the exercise or acquisition of Common Stock under the Stock Award has been registered under a then currently effective registration statement under the Securities Act, or (B) as to any particular requirement, a determination is made by counsel for the Company that such requirement need not be met in the circumstances under the then applicable securities laws. The Company may, upon advice of counsel to the Company, place legends on stock certificates issued under the Plan as such counsel deems necessary or appropriate in order to comply with applicable securities laws, including, but not limited to, legends restricting the transfer of the Common Stock.

(h) Withholding Obligations. Unless prohibited by the terms of an Award Agreement, the Company may, in its sole discretion, satisfy any federal, state or local tax withholding obligation relating to an Award by any of the following means or by a combination of such means: (i) causing the Participant to tender a cash payment; (ii) withholding shares of Common Stock from the shares of Common Stock issued or otherwise issuable to the Participant in connection with the Stock Award; *provided, however*, that no shares of Common Stock are withheld with a value exceeding the maximum amount of tax that may be required to be withheld by law (or such other amount as may be permitted while still avoiding classification of the Stock Award as a liability for financial accounting purposes); (iii) withholding cash from an Award settled in cash; (iv) withholding payment from any amounts otherwise payable to the Participant; or (v) by such other method as may be set forth in the Award Agreement.

(i) Electronic Delivery. Any reference herein to a “written” agreement or document will include any agreement or document delivered electronically, filed publicly at www.sec.gov (or any successor website thereto) or posted on the Company’s intranet (or other shared electronic medium controlled by the Company to which the Participant has access).

(j) Deferrals. To the extent permitted by applicable law, the Board, in its sole discretion, may determine that the delivery of Common Stock or the payment of cash, upon the exercise, vesting or settlement of all or a portion of any Award may be deferred and may establish programs and procedures for deferral elections to be made by Participants. Deferrals by Participants will be made in accordance with Section 409A of the Code. Consistent with Section 409A of the Code, the Board may provide for distributions while a Participant is still an employee or otherwise providing services to the Company. The Board is authorized to make deferrals of Awards and determine when, and in what annual percentages, Participants may receive payments, including lump sum payments, following the Participant’s termination of Continuous Service, and implement such other terms and conditions consistent with the provisions of the Plan and in accordance with applicable law.

(k) Section 409A Compliance. Unless otherwise expressly provided for in an Award Agreement, the Plan and Award Agreements will be interpreted to the greatest extent possible in a manner that makes the Plan and the Awards granted hereunder exempt from Section 409A of the Code, and, to the extent not so exempt, in compliance with Section 409A of the Code. If the Board determines that any Award granted hereunder is not exempt from and is therefore subject to Section 409A of the Code, the Award Agreement evidencing such Award will incorporate the terms and conditions necessary to avoid the consequences specified in Section 409A(a)(1) of the Code and to the extent an Award Agreement is silent on terms necessary for compliance, such terms are hereby incorporated by reference into the Award Agreement. Notwithstanding anything to the contrary in this Plan (and unless the Award Agreement specifically provides otherwise), if the shares of Common Stock are publicly traded, and if a Participant holding an Award that constitutes “deferred compensation” under Section 409A of the Code is a “specified employee” for purposes of Section 409A of the Code, no distribution or payment of any amount that is due because of a “separation from service” (as defined in Section 409A of the Code without regard to alternative definitions thereunder) will be issued or paid before the date that is six (6) months following the date of the Participant’s “separation from service” or, if earlier, the date of the Participant’s death, unless such distribution or payment may be made in a manner that complies with Section 409A of the Code, and any amounts so deferred will be paid in a lump sum on the day after such six (6) month period elapses, with the balance paid thereafter on the original schedule.

(l) Clawback/Recovery. All Awards granted under the Plan will be subject to recoupment in accordance with any clawback policy that the Company is required to adopt pursuant to the listing standards of any national securities exchange or association on which the Company’s securities are listed or as is otherwise required by the Dodd-Frank Wall Street Reform and Consumer Protection Act or other applicable law. In addition, the Board may impose such other clawback, recovery or recoupment provisions in an Award Agreement as the Board determines necessary or appropriate, including, but not limited to, a reacquisition right in respect of previously acquired shares of Common Stock or other cash or property upon the occurrence of Cause. No recovery of compensation under such a clawback policy will be an event giving rise to a right to resign for “good reason” or “constructive termination” (or similar term) under any agreement with the Company.

9. ADJUSTMENTS UPON CHANGES IN COMMON STOCK; OTHER CORPORATE EVENTS.

(a) Capitalization Adjustments. In the event of a Capitalization Adjustment, the Board will appropriately and proportionately adjust: (i) the class(es) and maximum number of securities subject to the Plan pursuant to Section 3(a); (ii) the class(es) and maximum number of securities that may be issued pursuant to the exercise of Incentive Stock Options pursuant to Section 1(a); (iii) the class(es) and maximum number of securities that may be awarded to any Participant pursuant to Section 3(d); and (iv) the class(es) and number of securities and price per share of stock subject to outstanding Stock Awards. The Board will make such adjustments, and its determination will be final, binding and conclusive.

(b) Dissolution or Liquidation. Except as otherwise provided in the applicable Stock Award Agreement or other written agreement between a Participant and the Company or an Affiliate, in the event of a dissolution or liquidation of the Company, all outstanding Stock Awards (other than Stock Awards consisting of vested and outstanding shares of Common Stock not subject to a forfeiture condition or the Company's right of repurchase) will terminate immediately prior to the completion of such dissolution or liquidation, and the shares of Common Stock subject to a forfeiture condition or the Company's right of repurchase may be reacquired or repurchased by the Company notwithstanding the fact that the holder of such Stock Award is providing Continuous Service; *provided, however*, that the Board may, in its sole discretion, cause some or all Stock Awards to become fully vested, exercisable and/or no longer subject to forfeiture or repurchase (to the extent such Stock Awards have not previously expired or terminated) before the dissolution or liquidation is completed but contingent on its completion.

(c) Corporate Transactions. In the event of a Corporate Transaction, notwithstanding any other provision of the Plan, the Board may take one or more of the following actions with respect to Stock Awards, contingent upon the closing or consummation of the Corporate Transaction, unless otherwise provided in the instrument evidencing the Stock Award, in any other written agreement between the Company or any Affiliate and the Participant or in any director compensation policy of the Company, or unless otherwise expressly provided by the Board at the time of grant of the Stock Award:

(i) arrange for the surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company) to assume or continue the Stock Award or to substitute a similar stock award for the Stock Award (including, but not limited to, an award to acquire the same consideration paid to the stockholders of the Company pursuant to the Corporate Transaction);

(ii) arrange for the assignment of any reacquisition or repurchase rights held by the Company in respect of Common Stock issued pursuant to the Stock Award to the surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company);

(iii) accelerate the vesting, in whole or in part, of the Stock Award (and, if applicable, the time at which the Stock Award may be exercised) to a date prior to the effective time of such Corporate Transaction as the Board determines (or, if the Board does not determine such a date, to the date that is five (5) days prior to the effective date of the Corporate Transaction), with such Stock Award terminating if not exercised (if applicable) at or prior to the effective time of the Corporate Transaction; *provided, however*, that the Board may require Participants to complete and deliver to the Company a notice of exercise before the effective date of a Corporate Transaction, which exercise is contingent upon the effectiveness of such Corporate Transaction;

(iv) arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by the Company with respect to the Stock Award;

(v) cancel or arrange for the cancellation of the Stock Award, to the extent not vested or not exercised prior to the effective time of the Corporate Transaction, in exchange for such cash consideration, if any, as the Board, in its sole discretion, may consider appropriate; and

(vi) cancel or arrange for the cancellation of the Stock Award, to the extent not exercised prior to the effective time of the Corporate Transaction, in exchange for a payment, in such form as may be determined by the Board equal to the excess, if any, of (A) the value of the property the Participant would have received upon the exercise of the Stock Award immediately prior to the effective time of the Corporate Transaction, over (B) any exercise price payable by such holder in connection with such exercise. For clarity, this payment may be zero (\$0) if the value of the property is equal to or less than the exercise price. Payments under this provision may be delayed to the same extent that payment of consideration to the holders of the Common Stock in connection with the Corporate Transaction is delayed as a result of escrows, earn outs, holdbacks or any other contingencies.

The Board need not take the same action or actions with respect to all Stock Awards or portions thereof or with respect to all Participants. The Board may take different actions with respect to the vested and unvested portions of a Stock Award.

In the event of a Corporate Transaction, unless otherwise provided in the instrument evidencing a Performance Cash Award or any other written agreement between the Company or any Affiliate and the Participant, or unless otherwise expressly provided by the Board, all Performance Cash Awards outstanding under the Plan will terminate prior to the effective time of such Corporate Transaction.

(d) **Change in Control.** A Stock Award may be subject to additional acceleration of vesting and exercisability upon or after a Change in Control as may be provided in the Stock Award Agreement for such Stock Award, in any other written agreement between the Company or any Affiliate and the Participant or in any director compensation policy of the Company, but in the absence of such provision, no such acceleration will occur.

10. TERMINATION OR SUSPENSION OF THE PLAN.

(a) The Board may suspend or terminate the Plan at any time. No Incentive Stock Option may be granted after the tenth (10th) anniversary of the earlier of (i) the Adoption Date or (ii) the date the Plan is approved by the stockholders of the Company. No Awards may be granted under the Plan while the Plan is suspended or after it is terminated.

(b) **No Impairment of Rights.** Suspension or termination of the Plan will not materially impair rights and obligations under any Award granted while the Plan is in effect except with the written consent of the affected Participant or as otherwise permitted in the Plan (including Section 2(b)(viii)) or an Award Agreement.

11. EFFECTIVE DATE OF PLAN.

This Plan will become effective on the Effective Date.

12. CHOICE OF LAW.

The laws of the State of Delaware will govern all questions concerning the construction, validity and interpretation of this Plan, without regard to that state's conflict of laws rules.

13. DEFINITIONS. As used in the Plan, the following definitions will apply to the capitalized terms indicated below:

(a) **"Adoption Date"** means ~~October 5~~ [September 26](#), 2019~~7~~, which is the date the Plan, as amended and restated, was adopted by the Board.

(b) **"Affiliate"** means, at the time of determination, any "parent" or "subsidiary" of the Company as such terms are defined in Rule 405. The Board will have the authority to determine the time or times at which "parent" or "subsidiary" status is determined within the foregoing definition.

(c) **"Appreciation Award"** means an Option or Stock Appreciation Right, in each case with respect to which the exercise or strike price is at least one hundred percent (100%) of the Fair Market Value of the Common Stock subject to the stock option or stock appreciation right, or Option or Stock Appreciation Right, as applicable, on the date of grant.

(d) **"Award"** means a Stock Award or a Performance Cash Award.

(e) **"Award Agreement"** means a written agreement between the Company and a Participant evidencing the terms and conditions of an Award.

(f) **"Board"** means the Board of Directors of the Company.

(g) **"Capitalization Adjustment"** means any change that is made in, or other events that occur with respect to, the Common Stock subject to the Plan or subject to any Stock Award after the Adoption Date without the receipt of consideration by the Company through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, stock split, reverse stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or any similar equity restructuring transaction, as that term is used in Statement of Financial Accounting Standards Board Accounting Standards Codification Topic 718 (or any successor thereto). Notwithstanding the foregoing, the conversion of any convertible securities of the Company will not be treated as a Capitalization Adjustment.

(h) “Cause” will have the meaning ascribed to such term in any written agreement between a Participant and the Company or an Affiliate defining such term and, in the absence of such agreement, such term means, with respect to a Participant, the occurrence of any of the following events: (i) such Participant’s commission of any felony or any crime involving fraud, dishonesty or moral turpitude under the laws of the United States or any state thereof; (ii) such Participant’s attempted commission of, or participation in, a fraud or act of dishonesty against the Company or an Affiliate; (iii) such Participant’s intentional, material violation of any contract or agreement between the Participant and the Company or an Affiliate or of any statutory duty owed to the Company or an Affiliate; (iv) such Participant’s unauthorized use or disclosure of the Company’s or an Affiliate’s confidential information or trade secrets; or (v) such Participant’s gross misconduct. The determination that a termination of the Participant’s Continuous Service is either for Cause or without Cause will be made by the Company, in its sole discretion. Any determination by the Company that the Continuous Service of a Participant was terminated with or without Cause for the purposes of outstanding Awards held by such Participant will have no effect upon any determination of the rights or obligations of the Company or such Participant for any other purpose.

(i) “Change in Control” means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) any Exchange Act Person becomes the Owner, directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the combined voting power of the Company’s then outstanding securities other than by virtue of a merger, consolidation or similar transaction. Notwithstanding the foregoing, a Change in Control will not be deemed to occur (A) on account of the acquisition of securities of the Company directly from the Company, (B) on account of the acquisition of securities of the Company by an investor, any affiliate thereof or any other Exchange Act Person that acquires the Company’s securities in a transaction or series of related transactions the primary purpose of which is to obtain financing for the Company through the issuance of equity securities, or (C) solely because the level of Ownership held by any Exchange Act Person (the “Subject Person”) exceeds the designated percentage threshold of the outstanding voting securities as a result of a repurchase or other acquisition of voting securities by the Company reducing the number of shares outstanding, provided that if a Change in Control would occur (but for the operation of this sentence) as a result of the acquisition of voting securities by the Company, and after such share acquisition, the Subject Person becomes the Owner of any additional voting securities that, assuming the repurchase or other acquisition had not occurred, increases the percentage of the then outstanding voting securities Owned by the Subject Person over the designated percentage threshold, then a Change in Control will be deemed to occur;

(ii) there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, the stockholders of the Company immediately prior thereto do not Own, directly or indirectly, either (A) outstanding voting securities representing more than fifty percent (50%) of the combined outstanding voting power of the surviving Entity in such merger, consolidation or similar transaction or (B) more than fifty percent (50%) of the combined outstanding voting power of the parent of the surviving Entity in such merger, consolidation or similar transaction, in each case in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such transaction;

(iii) there is consummated a sale, lease, exclusive license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than fifty percent (50%) of the combined voting power of the voting securities of which are Owned by stockholders of the Company in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such sale, lease, license or other disposition; or

(iv) individuals who, on the Adoption Date, are members of the Board (the “Incumbent Board”) cease for any reason to constitute at least a majority of the members of the Board; *provided, however*, that if the appointment or election (or nomination for election) of any new Board member was approved or recommended by a majority vote of the members of the Incumbent Board then still in office, such new member will, for purposes of this Plan, be considered as a member of the Incumbent Board.

Notwithstanding the foregoing definition or any other provision of this Plan, (A) the term Change in Control will not include a sale of assets, merger or other transaction effected exclusively for the purpose of changing the domicile of the Company, and (B) the definition of Change in Control (or any analogous term) in an individual written agreement between a Participant and the Company or an Affiliate will supersede the foregoing definition with respect to Awards subject to such agreement; *provided, however*, that (1) if no definition of Change in Control (or any analogous term) is set forth in such an individual written agreement, the foregoing definition will apply; and (2) no Change in Control (or any analogous term) will be deemed to occur with respect to Awards subject to such an individual written agreement without a requirement that the Change in Control (or any analogous term) actually occur. If required for compliance with Section 409A of the Code, in no event will an event be deemed a Change in Control if such event is not also a “change in the ownership of” the Company, a “change in the effective control of” the Company, or a “change in the ownership of a substantial portion of the assets of” the Company, each as determined under Treasury Regulations Section 1.409A-3(i)(5) (without regard to any alternative definition thereunder). The Board may, in its sole discretion and without a Participant’s consent, amend the definition of “Change in Control” to conform to the definition of a “change in control event” under Section 409A of the Code and the regulations thereunder.

(j) “*Code*” means the Internal Revenue Code of 1986, as amended, including any applicable regulations and guidance thereunder.

(k) “*Committee*” means a committee of one (1) or more Directors to whom authority has been delegated by the Board in accordance with Section 2(c).

(l) “*Common Stock*” means the common stock of the Company.

(m) “*Company*” means Xenetic Biosciences, Inc., a Nevada corporation.

(n) “*Consultant*” means any person, including an advisor, who is (i) engaged by the Company or an Affiliate to render consulting or advisory services and is compensated for such services, or (ii) serving as a member of the board of directors of an Affiliate and is compensated for such services. However, service solely as a Director, or payment of a fee for such service, will not cause a Director to be considered a “Consultant” for purposes of the Plan. Notwithstanding the foregoing, a person is treated as a Consultant under this Plan only if a Form S-8 Registration Statement under the Securities Act is available to register either the offer or the sale of the Company’s securities to such person.

(o) “*Continuous Service*” means that the Participant’s service with the Company or an Affiliate, whether as an Employee, Director or Consultant, is not interrupted or terminated. A change in the capacity in which the Participant renders service to the Company or an Affiliate as an Employee, Director or Consultant or a change in the Entity for which the Participant renders such service, provided that there is no interruption or termination of the Participant’s service with the Company or an Affiliate, will not terminate a Participant’s Continuous Service; *provided, however*, that if the Entity for which a Participant is rendering services ceases to qualify as an Affiliate, as determined by the Board, in its sole discretion, such Participant’s Continuous Service will be considered to have terminated on the date such Entity ceases to qualify as an Affiliate. For example, a change in status from an Employee of the Company to a Consultant of an Affiliate or to a Director will not constitute an interruption of Continuous Service. To the extent permitted by law, the Board or the chief executive officer of the Company, in that party’s sole discretion, may determine whether Continuous Service will be considered interrupted in the case of (i) any leave of absence approved by the Board or chief executive officer, including sick leave, military leave or any other personal leave, or (ii) transfers between the Company, an Affiliate, or their successors. Notwithstanding the foregoing, a leave of absence will be treated as Continuous Service for purposes of vesting in an Award only to such extent as may be provided in the Company’s leave of absence policy, in the written terms of any leave of absence agreement or policy applicable to the Participant, or as otherwise required by law.

(p) “*Corporate Transaction*” means the consummation, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) a sale or other disposition of all or substantially all, as determined by the Board, in its sole discretion, of the consolidated assets of the Company and its Subsidiaries;

(ii) a sale or other disposition of more than fifty percent (50%) of the outstanding securities of the Company;

(iii) a merger, consolidation or similar transaction following which the Company is not the surviving corporation; or

(iv) a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

If required for compliance with Section 409A of the Code, in no event will an event be deemed a Corporate Transaction if such event is not also a “change in the ownership of” the Company, a “change in the effective control of” the Company, or a “change in the ownership of a substantial portion of the assets of” the Company, each as determined under Treasury Regulations Section 1.409A-3(i)(5) (without regard to any alternative definition thereunder). The Board may, in its sole discretion and without a Participant’s consent, amend the definition of “Corporate Transaction” to conform to the definition of a “change in control event” under Section 409A of the Code and the regulations thereunder.

~~(q)~~ “**Covered Employee**” will have the meaning provided in Section 162(m)(3) of the Code.

~~(p)~~(q) “**Director**” means a member of the Board.

~~(s)~~(r) “**Disability**” means, with respect to a Participant, the inability of such Participant to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment that can be expected to result in death or that has lasted or can be expected to last for a continuous period of not less than twelve (12) months, as provided in Sections 22(e)(3) and 409A(a)(2)(c)(i) of the Code, and will be determined by the Board on the basis of such medical evidence as the Board deems warranted under the circumstances.

~~(t)~~(s) “**Effective Date**” means the effective date of this Plan document, as amended and restated, which is the date of the annual meeting of stockholders of the Company held in ~~2017~~2019.

~~(u)~~(t) “**Employee**” means any person employed by the Company or an Affiliate. However, service solely as a Director, or payment of a fee for such services, will not cause a Director to be considered an “Employee” for purposes of the Plan.

~~(v)~~(u) “**Entity**” means a corporation, partnership, limited liability company or other entity.

~~(w)~~(v) “**Exchange Act**” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

~~(x)~~(w) “**Exchange Act Person**” means any natural person, Entity or “group” (within the meaning of Section 13(d) or 14(d) of the Exchange Act), except that “Exchange Act Person” will not include (i) the Company or any Subsidiary of the Company, (ii) any employee benefit plan of the Company or any Subsidiary of the Company or any trustee or other fiduciary holding securities under an employee benefit plan of the Company or any Subsidiary of the Company, (iii) an underwriter temporarily holding securities pursuant to an offering of such securities, (iv) an Entity Owned, directly or indirectly, by the stockholders of the Company in substantially the same proportions as their Ownership of stock of the Company, or (v) any natural person, Entity or “group” (within the meaning of Section 13(d) or 14(d) of the Exchange Act) that, as of the Effective Date, is the Owner, directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the combined voting power of the Company’s then outstanding securities.

~~(y)~~(x) “**Fair Market Value**” means, as of any date, the value of the Common Stock determined as follows:

(i) If the Common Stock is listed on any established stock exchange or traded on any established market, the Fair Market Value of a share of Common Stock will be, unless otherwise determined by the Board, the closing sales price for such stock as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the Common Stock) on the date of determination, as reported in a source the Board deems reliable.

(ii) Unless otherwise provided by the Board, if there is no closing sales price for the Common Stock on the date of determination, then the Fair Market Value will be the closing sales price on the last preceding date for which such quotation exists.

(iii) In the absence of such markets for the Common Stock, the Fair Market Value will be determined by the Board in good faith and in a manner that complies with Sections 409A and 422 of the Code.

~~(z)~~(y) “**Full Value Award**” means a Stock Award, in each case that is not an Appreciation Award.

~~(aa)~~(z) “**Incentive Stock Option**” means an option granted pursuant to Section 5 that is intended to be, and that qualifies as, an “incentive stock option” within the meaning of Section 422 of the Code.

~~(bb)~~(aa) “**Non-Employee Director**” means a Director who either (i) is not a current employee or officer of the Company or an Affiliate, does not receive compensation, either directly or indirectly, from the Company or an Affiliate for services rendered as a consultant or in any capacity other than as a Director (except for an amount as to which disclosure would not be required under Item 404(a) of Regulation S-K promulgated pursuant to the Securities Act (“**Regulation S-K**”)), does not possess an interest in any other transaction for which disclosure would be required under Item 404(a) of Regulation S-K, and is not engaged in a business relationship for which disclosure would be required pursuant to Item 404(b) of Regulation S-K, or (ii) is otherwise considered a “non-employee director” for purposes of Rule 16b-3.

~~(ee)~~(bb) “**Nonstatutory Stock Option**” means an option granted pursuant to Section 5 that does not qualify as an Incentive Stock Option.

~~(dd)~~(cc) “**Officer**” means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act.

~~(ee)~~(dd) “**Option**” means an Incentive Stock Option or a Nonstatutory Stock Option to purchase shares of Common Stock granted pursuant to the Plan.

~~(ff)~~(ee) “**Option Agreement**” means a written agreement between the Company and a holder of an Option evidencing the terms and conditions of an Option grant. Each Option Agreement will be subject to the terms and conditions of the Plan.

~~(gg)~~(ff) “**Other Stock Award**” means an award based in whole or in part by reference to the Common Stock which is granted pursuant to the terms and conditions of Section 6(d).

~~(hh)~~(gg) “**Other Stock Award Agreement**” means a written agreement between the Company and a holder of an Other Stock Award evidencing the terms and conditions of an Other Stock Award grant. Each Other Stock Award Agreement will be subject to the terms and conditions of the Plan.

~~(hh)~~(hh) “**Outside Director**” means a Director who either (i) is not a current employee of the Company or an “affiliated corporation” (within the meaning of Treasury Regulations promulgated under Section 162(m) of the Code), is not a former employee of the Company or an “affiliated corporation” who receives compensation for prior services (other than benefits under a tax-qualified retirement plan) during the taxable year, has not been an officer of the Company or an “affiliated corporation,” and does not receive remuneration from the Company or an “affiliated corporation,” either directly or indirectly, in any capacity other than as a Director, or (ii) is otherwise considered an “outside director” for purposes of Section 162(m) of the Code.

~~(jj)~~(ii) “**Own**,” “**Owned**,” “**Owner**,” “**Ownership**” means a person or Entity will be deemed to “Own,” to have “Owned,” to be the “Owner” of, or to have acquired “Ownership” of securities if such person or Entity, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares voting power, which includes the power to vote or to direct the voting, with respect to such securities.

~~(kk)~~(jj) “**Participant**” means a person to whom an Award is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Award.

~~(kk)~~(kk) “**Performance Cash Award**” means an award of cash granted pursuant to the terms and conditions of Section 6(c)(ii).

~~(mm)(ll)~~ **“Performance Criteria”** means the one or more criteria that ~~the Committee (or, to the extent that an Award is not intended to qualify as “performance-based compensation” under Section 162(m) of the Code,~~ the Board or the Committee) will select for purposes of establishing the Performance Goals for a Performance Period. The Performance Criteria that will be used to establish such Performance Goals may be based on any one of, or combination of, the following as determined by the Committee (or Board, if applicable): (1) earnings (including earnings per share and net earnings); (2) earnings before interest, taxes and depreciation; (3) earnings before interest, taxes, depreciation and amortization; (4) earnings before interest, taxes, depreciation, amortization and legal settlements; (5) earnings before interest, taxes, depreciation, amortization, legal settlements and other income (expense); (6) earnings before interest, taxes, depreciation, amortization, legal settlements, other income (expense) and stock-based compensation; (7) earnings before interest, taxes, depreciation, amortization, legal settlements, other income (expense), stock-based compensation and changes in deferred revenue; (8) total stockholder return; (9) return on equity or average stockholder’s equity; (10) return on assets, investment, or capital employed; (11) stock price; (12) margin (including gross margin); (13) income (before or after taxes); (14) operating income; (15) operating income after taxes; (16) pre-tax profit; (17) operating cash flow; (18) sales or revenue targets; (19) increases in revenue or product revenue; (20) expenses and cost reduction goals; (21) improvement in or attainment of working capital levels; (22) economic value added (or an equivalent metric); (23) market share; (24) cash flow; (25) cash flow per share; (26) share price performance; (27) debt reduction; (28) implementation or completion of projects or processes (including, without limitation, clinical trial initiation, clinical trial enrollment, clinical trial results, new and supplemental indications for existing products, regulatory filing submissions, regulatory filing acceptances, regulatory or advisory committee interactions, regulatory approvals, and product supply); (29) stockholders’ equity; (30) capital expenditures; (31) debt levels; (32) operating profit or net operating profit; (33) workforce diversity; (34) growth of net income or operating income; (35) billings; (36) bookings; (37) employee retention; (38) initiation of phases of clinical trials and/or studies by specific dates; (39) patient enrollment rates; (40) budget management; (41) submission to, or approval by, a regulatory body (including, but not limited to the U.S. Food and Drug Administration) of an applicable filing or a product candidate; (42) regulatory milestones; (43) progress of internal research or clinical programs; (44) progress of partnered programs; (45) partner satisfaction; (46) timely completion of clinical trials; (47) submission of INDs and NDAs and other regulatory achievements; (48) research progress, including the development of programs; (49) strategic partnerships or transactions (including in-licensing and out-licensing of intellectual property); (50) customer satisfaction; and (51) ~~to the extent that an Award is not intended to comply with Section 162(m) of the Code,~~ other measures of performance selected by the Board.

~~(nn)(mm)~~ **“Performance Goals”** means, for a Performance Period, the one or more goals established by the ~~Committee (or, to the extent that an Award is not intended to qualify as “performance-based compensation” under Section 162(m) of the Code,~~ the Board or the Committee) for the Performance Period based upon the Performance Criteria. Performance Goals may be based on a Company-wide basis, with respect to one or more business units, divisions, Affiliates, or business segments, and in either absolute terms or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. The ~~Committee (or, to the extent that an Award is not intended to qualify as “performance-based compensation” under Section 162(m) of the Code,~~ the Board or the Committee) is authorized to make appropriate adjustments in the method of calculating the attainment of Performance Goals for a Performance Period as follows: ~~provided, however, that to the extent that an Award is intended to qualify as “performance-based compensation” under Section 162(m) of the Code, any such adjustment may be made only if such adjustment is objectively determinable and specified in the Award Agreement at the time the Award is granted or in such other document setting forth the Performance Goals for the Award at the time the Performance Goals are established:~~ (1) to include or exclude restructuring and/or other non-recurring charges; (2) to include or exclude exchange rate effects, as applicable, for non-U.S. dollar denominated Performance Goals; (3) to include or exclude the effects of changes to generally accepted accounting principles required by the Financial Accounting Standards Board; (4) to include or exclude the effects of any statutory adjustments to corporate tax rates; (5) to include or exclude the effects of any “items that are “unusual” in nature or occur “infrequently” as determined under generally accepted accounting principles; (6) to include or exclude the effects of purchase accounting adjustments; (7) to include or exclude the effect of payment of bonuses under any cash bonus plan of the Company; (8) to include or exclude the effect of stock-based compensation and/or deferred compensation; (9) to include or exclude any other unusual, non-recurring gain or loss or other extraordinary item; (10) to respond to, or in anticipation of, any unusual or extraordinary corporate item, transaction, event or development; (11) to respond to, or in anticipation of, changes in applicable laws, regulations, accounting principles, or business conditions; (12) to include or exclude the effects of divestitures, acquisitions or joint ventures; (13) to include or exclude the effects of discounted operations that do not qualify as a segment of a business unit under generally accepted accounting principles; (14) to assume that any business divested by the Company achieved performance objectives at targeted levels during the balance of a Performance Period following such divestiture; (15) to include or exclude the effect of any change in the outstanding shares of Common Stock by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common stockholders other than regular cash dividends; (16) to reflect a corporate transaction, such as a merger, consolidation, separation (including a spinoff or other distribution of stock or property by a corporation), or reorganization (whether or not such reorganization comes within the definition of such term in Section 368 of the Code); (17) to exclude the effects of the timing of acceptance for review and/or approval of submissions to the U.S. Food and Drug Administration or any other regulatory body; (18) to reflect any partial or complete corporate liquidation; (19) to include or exclude the amortization of purchased intangibles, technology license arrangements and incomplete technology; and (20) ~~to the extent that an Award is not intended to qualify as “performance-based compensation” under Section 162(m) of the Code,~~ to make other appropriate adjustments selected by the Board or the Committee.

~~(oo)(nn)~~ “*Performance Period*” means the period of time selected by the ~~Committee (or, to the extent that an Award is not intended to qualify as “performance based compensation” under Section 162(m) of the Code, the~~ Board or the Committee) over which the attainment of one or more Performance Goals will be measured for the purpose of determining a Participant’s right to and the payment of a Performance Stock Award or a Performance Cash Award. Performance Periods may be of varying and overlapping duration, at the sole discretion of the Committee (or Board, if applicable).

~~(pp)(oo)~~ “*Performance Stock Award*” means a Stock Award granted under the terms and conditions of Section 6(c)(i).

~~(qq)(pp)~~ “*Plan*” means this Xenetic Biosciences, Inc. Equity Incentive Plan.

~~(rr)(qq)~~ “*Restricted Stock Award*” means an award of shares of Common Stock which is granted pursuant to the terms and conditions of Section 6(a).

~~(ss)(rr)~~ “*Restricted Stock Award Agreement*” means a written agreement between the Company and a holder of a Restricted Stock Award evidencing the terms and conditions of a Restricted Stock Award grant. Each Restricted Stock Award Agreement will be subject to the terms and conditions of the Plan.

~~(tt)(ss)~~ “*Restricted Stock Unit Award*” means a right to receive shares of Common Stock which is granted pursuant to the terms and conditions of Section 6(b).

~~(uu)(tt)~~ “*Restricted Stock Unit Award Agreement*” means a written agreement between the Company and a holder of a Restricted Stock Unit Award evidencing the terms and conditions of a Restricted Stock Unit Award grant. Each Restricted Stock Unit Award Agreement will be subject to the terms and conditions of the Plan.

~~(vv)(uu)~~ “*Rule 16b-3*” means Rule 16b-3 promulgated under the Exchange Act or any successor to Rule 16b-3, as in effect from time to time.

~~(ww)(vv)~~ “*Rule 405*” means Rule 405 promulgated under the Securities Act.

~~(xx)(ww)~~ “*Securities Act*” means the Securities Act of 1933, as amended.

~~(yy)(xx)~~ “*Stock Appreciation Right*” or “*SAR*” means a right to receive the appreciation on Common Stock that is granted pursuant to the terms and conditions of Section 5.

~~(zz)(yy)~~ “*Stock Appreciation Right Agreement*” or “*SAR Agreement*” means a written agreement between the Company and a holder of a Stock Appreciation Right evidencing the terms and conditions of a Stock Appreciation Right grant. Each Stock Appreciation Right Agreement will be subject to the terms and conditions of the Plan.

~~(aaa)(zz)~~ “*Stock Award*” means any right to receive Common Stock granted under the Plan, including an Incentive Stock Option, a Nonstatutory Stock Option, a Stock Appreciation Right, a Restricted Stock Award, a Restricted Stock Unit Award, a Performance Stock Award or any Other Stock Award and including, as applicable such awards granted under the Plan prior to the amendment and restatement of the Plan hereby.

~~(bbb)(aaa)~~ “*Stock Award Agreement*” means a written agreement between the Company and a Participant evidencing the terms and conditions of a Stock Award grant. Each Stock Award Agreement will be subject to the terms and conditions of the Plan.

~~(eee)(bbb)~~ “*Subsidiary*” means, with respect to the Company, (i) any corporation of which more than fifty percent (50%) of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class or classes of such corporation will have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, Owned by the Company, and (ii) any partnership, limited liability company or other entity in which the Company has a direct or indirect interest (whether in the form of voting or participation in profits or capital contribution) of more than fifty percent (50%).

~~(ddd)(ccc)~~ “*Ten Percent Stockholder*” means a person who Owns (or is deemed to Own pursuant to Section 424(d) of the Code) stock possessing more than ten percent (10%) of the total combined voting power of all classes of stock of the Company or any Affiliate.

Xenetic Biosciences, Inc.
40 Speen Street, Suite 102
Framingham, Massachusetts 01701

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Annual Meeting of Stockholders

Meeting Date: Wednesday, December 4, 2019

Time: 10 A.M. EDT

Location: 701 Brickell Avenue, Suite 3300, Miami, Florida 33131

THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS OF THE COMPANY

Voting Instructions

You can vote by Internet

Instead of mailing your proxy, you may choose to vote on the Internet.

Validation details including Control ID are located on this form.

SAMPLE SHAREHOLDER NAME
101 SAMPLE STREET
APT. 999
SAMPLE CITY, TX 99999

Please vote immediately. Your vote is important.

Vote by Internet

Log on to the internet and go to

<https://stocktrack.simplyvoting.com>

See your Control ID below.

Follow the steps outlined on this secured Web site.

Vote by telephone

Call **(702) 818-5898** to vote by phone

WE MUST RECEIVE YOUR VOTING INSTRUCTIONS PRIOR TO 2:00 P.M. ET 12/03/19

This Proxy will be voted in accordance with the directions given herein. If no direction is given, this Proxy will be voted per the board of directors' recommendation as noted next to each item below.

PROXY CARD

Control ID: SAMPLE000000X

A. Voting Items (Fill in only one box per nominee or item in black or blue ink)

1. Election of Directors	For	Withhold	
Grigory G. Borisenko	<input type="checkbox"/>	<input type="checkbox"/>	Board of Directors recommendation <u>For</u>
James E. Callaway	<input type="checkbox"/>	<input type="checkbox"/>	Board of Directors recommendation <u>For</u>
Firdaus Jal Dastoor	<input type="checkbox"/>	<input type="checkbox"/>	Board of Directors recommendation <u>For</u>
Jeffrey F. Eisenberg	<input type="checkbox"/>	<input type="checkbox"/>	Board of Directors recommendation <u>For</u>
Dmitry Genkin	<input type="checkbox"/>	<input type="checkbox"/>	Board of Directors recommendation <u>For</u>
Roger Kornberg	<input type="checkbox"/>	<input type="checkbox"/>	Board of Directors recommendation <u>For</u>
Adam Logal	<input type="checkbox"/>	<input type="checkbox"/>	Board of Directors recommendation <u>For</u>
Alexey Vinogradov	<input type="checkbox"/>	<input type="checkbox"/>	Board of Directors recommendation <u>For</u>

(Continued on the next page)

Xenetic Biosciences, Inc.
 40 Speen Street, Suite 102
 Framingham, Massachusetts 01701

Annual Meeting of Stockholders to be held on Wednesday, December 4, 2019 at 10:00 a.m. ET at 701 Brickell Avenue, Suite 3300, Miami, Florida 33131

	For	Against	Abstain	
2. To ratify the selection by the Audit Committee of Marcum LLP as the independent registered public accounting firm of the Company for its fiscal year ending December 31, 2019.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Board of Directors recommendation <u>For</u>
3. Non-binding advisory vote to approve the Company's named executive officer compensation ("Say on Pay").	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Board of Directors recommendation <u>For</u>
4. Approval of the Amended and Restated Equity Incentive Plan to, among other things, increase shares of common stock authorized under the plan by 750,000 shares.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Board of Directors recommendation <u>For</u>

NOTE: In their discretion, the proxy holders are authorized to transact any other business as may properly come before the meeting or any adjournments or postpones thereof.

B. Non-Voting Items

I would like to receive proxy materials via email in the future

Email Address: _____

C. Authorized Signatures - This section must be completed for your vote to be counted. Date and Sign Below.

The undersigned, revoking all prior proxies, hereby appoints Jeffrey F. Eisenberg and James Parslow, or either of them, as proxies of the undersigned (with full power to act without the other and to appoint his substitute) to attend and represent the undersigned at the Annual Meeting of the Stockholders of Xenetic Biosciences, Inc. (the "Company") to be held at 701 Brickell Avenue, Suite 3300, Miami, Florida 33131 on December 4, 2019 at 10:00 a.m. ET, and any adjourned sessions thereof, and there to act and vote as indicated, upon all matters referred to on the previous page and described in the proxy statement relating to the annual meeting, all shares of common stock of the Company which the undersigned would be entitled to vote or act upon, with all powers the undersigned would possess, if personally present at the meeting and at any adjourned sessions thereof. Each of the matters on the previous page is being proposed by the Board of Directors of the Company.

IN THEIR DISCRETION, THE PROXIES ARE AUTHORIZED TO VOTE IN THEIR DISCRETION ON ANY OTHER BUSINESS AS PROPERLY MAY COME BEFORE THE MEETING, OR ANY ADJOURNMENT THEREOF.

Attendance of the undersigned at the meeting or at any adjourned session thereof will not be deemed to revoke this proxy unless the undersigned shall affirmatively indicate thereof the intention of the undersigned to vote said shares in person. If the undersigned hold(s) any of the shares of the Company in a fiduciary, custodial or joint capacity or capacities, this proxy is signed by the undersigned in every such capacity as well as individually.

(Continued on the next page)

IMPORTANT – PLEASE SIGN AND RETURN THIS PROXY PROMPTLY. Please sign exactly as your name(s) appear(s) herein. When shares are held by joint tenants, both should sign. When signing as attorney, executor, administrator, trustee or guardian, please give full title as such. If a corporation, please sign in full corporate name by President or other authorized officer. If a partnership, please sign in partnership name by an authorized person.

I PLAN TO ATTEND THE MEETING

Date (mm/dd/yyyy)

Signature(s):

Address Change/Comments

If voting by mail, you must complete Sections A & C and mail in the provided envelope.
