

Synthetic Biologics, Inc.  
Form PRE 14A  
July 06, 2017

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

**SCHEDULE 14A  
(RULE 14a-101)  
INFORMATION REQUIRED IN PROXY STATEMENT**

**SCHEDULE 14A INFORMATION**

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

Filed by the Registrant  x  
Filed by a Party other than the Registrant  o  
Check the appropriate box:

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

**SYNTHETIC BIOLOGICS, INC.**

*(Name of Registrant as Specified in Its Charter)*

*(Name of Person(s) Filing Proxy Statement, if Other Than the Registrant)*

Payment of Filing Fee (Check the appropriate box):

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

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(2) Aggregate number of securities to which transaction applies:

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

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(1) Amount Previously Paid:

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(3) Filing Party:

(4) Date Filed:

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**9605 Medical Center Drive, Suite 270  
Rockville, MD 20850  
(301) 417-4364**

**NOTICE OF ANNUAL MEETING OF STOCKHOLDERS**

To the Stockholders of Synthetic Biologics, Inc.:

We hereby notify you that the 2017 Annual Meeting of Stockholders of Synthetic Biologics, Inc., a Nevada corporation, will be held on September 7, 2017 at 9:00 a.m. (Eastern Time), at the offices of Gracin & Marlow, LLP, The Chrysler Building, 405 Lexington Avenue, 26<sup>th</sup> Floor, New York, New York 10174, for the following purposes:

- (1) to elect the four (4) nominees for director named herein to hold office until our next annual meeting of stockholders and until their successors are duly elected and qualified;
- (2) to ratify the appointment of BDO USA, LLP as our independent registered public accounting firm for the year ending December 31, 2017;
- (3) to approve an amendment to our articles of incorporation, as amended (the "Articles of Incorporation") to increase the number of shares of common stock, \$0.001 par value per share (the "common stock") that we will have authority to issue from 250,000,000 to 350,000,000 (the "Authorized Share Increase");
- (4) to authorize an adjournment of the Annual Meeting, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of Proposal 3 (the "Adjournment");
- (5) to approve an amendment to our 2010 Stock Incentive Plan to increase the number of shares of common stock that we will have authority to grant under the plan from 14,000,000 to 17,500,000; and
- (6) to transact such other business as may properly come before the meeting or any adjournments or postponements of the meeting.

The matters listed in this notice of meeting are described in detail in the accompanying Proxy Statement. Our Board of Directors has fixed the close of business on July 13, 2017 as the record date for determining those stockholders who are entitled to notice of and to vote at the meeting or any adjournment or postponement of our 2017 Annual Meeting of Stockholders. The list of the stockholders of record as of the close of business on July 13, 2017 will be made available for inspection at the meeting.

**IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE ANNUAL MEETING OF STOCKHOLDERS TO BE HELD ON SEPTEMBER 7, 2017:**

**THE NOTICE OF ANNUAL MEETING OF STOCKHOLDERS, THE PROXY STATEMENT AND OUR ANNUAL REPORT ON FORM 10-K FOR THE YEAR ENDED DECEMBER 31, 2016 ARE AVAILABLE ELECTRONICALLY AT [WWW.SYNTHETICBIOLOGICS.COM](http://WWW.SYNTHETICBIOLOGICS.COM).**

Along with the attached Proxy Statement, we are sending to you our Annual Report on Form 10-K for the year ended December 31, 2016. Such annual report, which includes our audited financial statements, is not to be regarded as proxy solicitation material.



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**YOUR VOTE IS IMPORTANT**

Even if you plan to attend the meeting, please vote as promptly as possible by using the internet or kindly sign, date, and return the enclosed proxy card in the envelope provided so that your vote will be counted if you later decide not to attend the meeting. No postage is required if the proxy card is mailed in the United States.

By order of the Board of Directors,

/s/ Jeffrey Riley

Chief Executive Officer

Rockville, Maryland

July , 2017

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**9605 Medical Center Drive, Suite 270  
Rockville, MD 20850  
(301) 417-4364**

**PROXY STATEMENT**

This Proxy Statement is being furnished to holders of shares of common stock, \$0.001 par value per share, of Synthetic Biologics, Inc., a Nevada corporation ( we, us, or the Company ), in connection with the solicitation of proxies on behalf of our Board of Directors for use at our 2017 Annual Meeting of Stockholders to be held on September 7, 2017 at 9:00 a.m. (Eastern Time), at the offices of Gracin & Marlow, LLP, The Chrysler Building, 405 Lexington Avenue, 26<sup>th</sup> Floor, New York, New York 10174, and at any adjournment or postponement of our 2017 Annual Meeting of Stockholders. The purpose of the 2017 Annual Meeting of Stockholders and the matters to be acted on are stated in the accompanying notice of 2017 Annual Meeting of Stockholders. The Board of Directors knows of no other business that will come before the 2017 Annual Meeting of Stockholders.

The notice of our 2017 Annual Meeting of Stockholders, this Proxy Statement, and a proxy card, together with our Annual Report on Form 10-K for the year ended December 31, 2016, are being mailed to our stockholders on or about July , 2017. Such annual report, which includes our audited financial statements, is not to be regarded as proxy solicitation material. We will bear the cost of our solicitation of proxies. The original solicitation of proxies by mail may be supplemented by personal interview, telephone, or facsimile by our directors, officers, or employees, who will receive no additional compensation for such services. Arrangements will be made with brokerage houses and other custodians, nominees, and fiduciaries for the forwarding of solicitation material to the beneficial owners of stock held by any such persons, and we will reimburse those custodians, nominees, and fiduciaries for the reasonable out-of-pocket expenses incurred by them in doing so.

Our Board of Directors is soliciting votes **FOR** each of the four (4) nominees named herein for election to our Board of Directors; **FOR** the ratification of the appointment of BDO USA, LLP as our independent registered public accounting firm for the year ending December 31, 2017; **FOR** approval of an amendment to our articles of incorporation, as amended ( Articles of Incorporation ) to increase the number of authorized shares of common stock from 250,000,000 to 350,000,000 (the Authorized Share Increase ); **FOR** authority to adjourn the 2017 Annual Meeting of Stockholders, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of the Authorized Share Increase (the Adjournment ); and **FOR** approval of an amendment to our 2010 Stock Incentive Plan to increase the number of shares of common stock that we will have authority to grant from 14,000,000 to 17,500,000.

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## INFORMATION ABOUT VOTING

**Q:** *Why am I receiving these materials?*

A: The Board of Directors is providing these proxy materials to you in connection with our 2017 Annual Meeting of Stockholders, which is scheduled to take place on September 7, 2017. As a stockholder of record as of July 13, 2017, you are invited to attend the 2017 Annual Meeting of Stockholders and to vote on the items of business described in this Proxy Statement.

**Q:** *What information is contained in these materials?*

A: The information included in this Proxy Statement relates to the proposals to be voted on at the 2017 Annual Meeting of Stockholders, the voting process, the compensation of our directors and executive officers, and other required information.

**Q:** *What items of business will be voted on at the 2017 Annual Meeting of Stockholders?*

A: The five (5) items of business scheduled to be voted on at the 2017 Annual Meeting of Stockholders are: (1) the election of our directors named herein; (2) the ratification of BDO USA, LLP as our independent registered public accounting firm; (3) the amendment to our Articles of Incorporation to increase the authorized number of shares of common stock from 250,000,000 to 350,000,000; (4) the adjournment of the 2017 Annual Meeting of Stockholders, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of the Authorized Share Increase; and (5) the amendment to our 2010 Stock Incentive Plan to increase the number of shares of common stock that we will have authority to grant from 14,000,000 to 17,500,000.

**Q:** *How does the Board of Directors recommend that I vote?*

A: The Board of Directors recommends that you vote your shares: (1) FOR each of the nominees named herein for election to our Board of Directors named herein; (2) FOR the ratification of the appointment of BDO USA, LLP as our independent registered public accounting firm for the year ending December 31, 2017; (3) FOR approval of an amendment to our Articles of Incorporation to increase the number of shares of common stock from 250,000,000 to 350,000,000; (4) FOR authority to adjourn the 2017 Annual Meeting of Stockholders, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of the Authorized Share Increase; and (5) FOR approval of an amendment to our 2010 Stock Incentive Plan to increase the number of shares of common stock that we will have authority to grant from 14,000,000 to 17,500,000. We encourage you to vote FOR all five (5) proposals.

**Q:** *What shares can I vote?*

A: You may vote or cause to be voted all shares owned by you as of the close of business on July 13, 2017, the record date. These shares include: (1) shares held directly in your name as a stockholder of record; and (2) shares held for you, as the beneficial owner, through a broker or other nominee, such as a bank.

**Q:** *What is the difference between holding shares as a stockholder of record and as a beneficial owner?*

A: Most of our stockholders hold their shares through a broker or other nominee rather than directly in their own name. As summarized below, there are some distinctions between shares held of record and those owned beneficially. If your shares are registered directly in your name with our transfer agent, Corporate Stock Transfer, Inc., you are considered, with respect to those shares, the stockholder of record and these proxy materials are being sent directly to you by us. As the stockholder of record, you have the right to grant your voting proxy directly to Mr. Jeffrey Riley, our Chief Executive Officer, and Mr. Steven Shallcross, our Chief Financial Officer, or either of them, or to vote in person at the meeting. The Board of Directors has enclosed a proxy card for stockholders of record to use to grant a voting proxy.

If your shares are held in a brokerage account or by another nominee, you are considered the beneficial owner of shares held in street name, and these proxy materials are being forwarded to you by your broker or nominee together with a voting instruction card. As the beneficial owner, you have the right to direct your broker or nominee how to vote and are also invited to attend the 2017 Annual Meeting of Stockholders. Since you are not the stockholder of record, however, you may not vote these shares in person at the meeting unless you obtain from the broker or nominee

that holds your shares a valid proxy

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from them giving you the right to vote the shares. Your broker or nominee should have enclosed or provided voting instructions for you to use in directing the broker or nominee how to vote your shares. If you hold your shares through a broker and you do not give instructions to the record holder on how to vote, the record holder will be entitled to vote your shares in its discretion on certain matters considered routine, such as the ratification of the appointment of our independent registered public accounting firm, the Authorized Share Increase and the Adjournment. Neither the uncontested election of directors nor the amendment to our 2010 Stock Incentive Plan to increase the number of shares of common stock that we will have authority to grant is considered a routine matter. Therefore, brokers do not have the discretion to vote on the election of directors or the amendment to our 2010 Stock Incentive Plan to increase the number of shares of common stock that we will have authority to grant. If you hold your shares in street name and you do not instruct your broker how to vote in the election of directors and the amendment to our 2010 Stock Incentive Plan to increase the number of shares of common stock that we will have authority to grant, no votes will be cast on your behalf for the non-routine matter. These broker non-votes will be treated as shares that are present and entitled to vote for purposes of determining the presence of a quorum, but not as shares entitled to vote on a particular proposal.

**Q: *May I attend the 2017 Annual Meeting of Stockholders?***

A: You are entitled to attend the 2017 Annual Meeting of Stockholders only if you were a stockholder as of the close of business on the record date, July 13, 2017, or you hold a valid proxy for the 2017 Annual Meeting of Stockholders. You should be prepared to present photo identification for admittance. If you are not a record holder but hold shares beneficially through a broker or nominee (that is, in street name), you should provide proof of beneficial ownership on the record date, such as your most recent account statement, a copy of the voting instruction card provided by your broker or nominee, or other similar evidence of ownership. If you do not provide photo identification or comply with the other procedures outlined above upon request, you may not be admitted to the 2017 Annual Meeting of Stockholders. The 2017 Annual Meeting of Stockholders will begin promptly at 9:00 a.m. (Eastern Time). Check-in will begin at 8:30 a.m., and you should allow ample time for the check-in procedures.

**Q: *How can I vote my shares in person at the 2017 Annual Meeting of Stockholders?***

A: You may vote by ballot in person at the 2017 Annual Meeting of Stockholders any shares that you hold as the stockholder of record. You may only vote in person shares held in street name if you obtain from the broker or nominee that holds your shares a valid proxy giving you the right to vote the shares.

**Q: *How can I vote my shares without attending the 2017 Annual Meeting of Stockholders?***

A: Whether you hold shares directly as the stockholder of record or beneficially in street name, you may, without attending the meeting, direct how your shares are to be voted.

*Stockholder of Record Shares Registered in Your Name:* If you are a stockholder of record, in addition to voting in person at the 2017 Annual Meeting of Stockholders, you may vote by proxy through the internet, or vote by proxy using a proxy card. Whether or not you plan to attend the 2017 Annual Meeting of Stockholders, 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.

**Vote by Internet**, by going to the web address <https://secure.corporatestock.com/vote.php> and following the instructions for internet voting shown on your proxy card. Your Internet vote must be received by 12:00 a.m., Eastern Time, on September 7, 2017 to be counted.

**Vote by Proxy Card**, by completing, signing, dating and mailing the enclosed proxy card in the envelope provided. If you return your signed proxy card to us before the 2017 Annual Meeting of Stockholders, we will vote your shares as you direct. If you vote by internet, please do not mail your proxy card.

*Beneficial Owner Shares Registered in the Name of a Broker or Bank:* If you are a beneficial owner of shares registered in the name of your broker, bank, or other agent, you should have received an instruction card containing voting instructions from that organization rather than from us. You will be provided with



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instructions to vote by internet, vote by telephone or to vote by mailing in your instruction card. Simply follow the voting instructions in the voting instruction card to ensure that your vote is counted.

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

**Q: *Can I change my vote?***

You may change your vote at any time prior to the final vote at the 2017 Annual Meeting of Stockholders. For shares held directly in your name, you may accomplish this by: (1) sending a written notice of revocation to our Corporate Secretary at Synthetic Biologics, Inc., 9605 Medical Center Drive, Suite 270, Rockville, Maryland 20850; (2) granting a new proxy bearing a later date (which automatically revokes the earlier proxy); (3) granting a subsequent proxy through the internet; or (4) by attending the 2017 Annual Meeting of Stockholders and voting in person. Attendance at the meeting will not cause your previously granted proxy to be revoked unless you specifically so request. ***Even if you plan to attend the 2017 Annual Meeting of Stockholders, we recommend that you also submit your proxy or voting instructions or vote through the internet so that your vote will be counted if you later decide not to attend the 2017 Annual Meeting of Stockholders.***

For shares you hold beneficially, you may change your vote by submitting new voting instructions to your broker or nominee or, if you have obtained a valid proxy from your broker or nominee giving you the right to vote your shares, by attending the meeting and voting in person.

**Q: *Can I revoke my proxy?***

You may revoke your proxy before it is voted at the 2017 Annual Meeting of Stockholders. To revoke your proxy, notify our Corporate Secretary in writing at Synthetic Biologics, Inc., 9605 Medical Center Drive, Suite 270, Rockville, Maryland 20850, or deliver to our Corporate Secretary a duly executed proxy bearing a later date. You may also revoke your proxy by appearing at the 2017 Annual Meeting of Stockholders in person and voting your shares. If you vote by internet, you may also revoke your proxy by granting a subsequent proxy by telephone or internet. Attendance at the 2017 Annual Meeting of Stockholders will not, by itself, revoke a proxy. If your shares are held by your broker or bank as nominee or agent, you should follow the instructions provided by your broker or bank.

**Q: *Who can help answer my questions?***

If you have any questions about the 2017 Annual Meeting of Stockholders or how to vote or revoke your proxy, or you need additional copies of this Proxy Statement or voting materials, you should contact our Corporate Secretary at Synthetic Biologics, Inc., 9605 Medical Center Drive, Suite 270, Rockville, Maryland 20850 or by phone at (301) 417-4364.

**Q: *How are votes counted?***

In the election of directors, you may vote FOR all of the four (4) nominees or you may direct your vote to be WITHHELD with respect to any one or more of the four (4) nominees named herein.

With respect to other proposals, you may vote FOR, AGAINST, or ABSTAIN.

If you provide specific instructions, your shares will be voted as you instruct. If you sign your proxy card or voting instruction card with no further instructions, your shares will be voted in accordance with the recommendations of the Board of Directors, namely FOR each of the four (4) nominees named herein for election to our Board of Directors; FOR the ratification of the appointment of BDO USA, LLP as our independent registered public accounting firm for the year ending December 31, 2017; FOR approval of an amendment to our Articles of Incorporation to increase the number of shares of common stock from 250,000,000 to 350,000,000; FOR authority to adjourn the 2017 Annual Meeting of Stockholders, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of the Authorized Share Increase; and FOR approval of an amendment to our

2010 Stock Incentive Plan to increase the number of shares of common stock that we will have authority to grant from 14,000,000 to 17,500,000.

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**Q: *What is a quorum and why is it necessary?***

Conducting business at the Annual Meeting of Stockholders requires a quorum. The presence, either in person or by proxy, of the holders of a majority of our shares of common stock outstanding on July 13, 2017 is necessary to constitute a quorum. On the record date, there were [ ] shares outstanding and entitled to vote. 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 2017 Annual Meeting of Stockholders. Abstentions and broker non-votes (which result when your shares are held in street name and you do not tell the nominee how to vote your shares and are described in detail below) are treated as present for purposes of determining whether a quorum exists. Broker non-votes are relevant in determining whether a quorum is present at the meeting. If there is no quorum, the holders of a majority of shares present at the meeting in person or represented by proxy may adjourn the meeting to another date.

**Q: *What are Broker-Non-Votes?***

Under the rules of the NYSE MKT, LLC ( NYSE MKT ), member brokers who hold shares in street name for their customers that are the beneficial owners of those shares have the authority to only vote on certain routine items in the event that they have not received instructions from beneficial owners. Under NYSE MKT rules, when a proposal is not a routine matter and a member broker has not received voting instructions from the beneficial owner of the shares with respect to that proposal, the brokerage firm may not vote the shares on that proposal since it does not have discretionary authority to vote those shares on that matter. A broker non-vote is submitted when a broker returns a proxy card and indicates that, with respect to particular matters, it is not voting a specified number of shares on that matter, as it has not received voting instructions with respect to those shares from the beneficial owner and does not have discretionary authority to vote those shares on such matters. Broker non-votes are not entitled to vote at the 2017 Annual Meeting of Stockholders with respect to the matters to which they apply; however, broker non-votes will be included for purposes of determining whether a quorum is present at the 2017 Annual Meeting of Stockholders.

Proposals 1 and 5 are considered a non-routine matters. As a result, brokers that do not receive instructions with respect to Proposal 1 or 5 from their customers will not be entitled to vote on such proposal.

Proposals 2, 3 and 4 are each considered a routine matter. As a result, brokers that do not receive instructions with respect to Proposals 2, 3 and 4 from their customers will be entitled to vote on such proposal.

**Q: *What is the voting requirement to approve each of the proposals?***

For Proposal 1, which relates to the election of directors, the four (4) nominees receiving the highest number of FOR votes (from the holders of votes of shares present in person or represented by proxy at the 2017 Annual Meeting of Stockholders and entitled to vote on the election of directors) will be elected. Only votes FOR or WITHHELD will affect the outcome. Abstentions and broker non-votes will have no effect on the outcome of the vote as long as each nominee receives at least one FOR vote.

To be approved, Proposal 2, which relates to the ratification of the appointment of BDO USA, LLP, as our independent registered public accounting firm for the year ending December 31, 2017, must receive FOR votes from the holders of a majority of shares present in person or represented by proxy and entitled to vote at the 2017 Annual Meeting of Stockholders. Abstentions will have the same effect as an AGAINST vote. Although none are expected to exist in connection with Proposal 2, broker non-votes, if any, will have no effect. This vote is advisory, and therefore is not binding on us, the Audit Committee or our Board of Directors. If our stockholders fail to ratify the appointment, the Audit Committee will reconsider whether or not to retain that firm. Even if the appointment is ratified, the Audit Committee 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.



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To be approved, Proposal 3 (the Authorized Share Increase), which relates to the approval of an increase in the number of authorized shares of common stock that may be issued under our Articles of Incorporation, must receive FOR votes from the holders of a majority of the issued and outstanding shares of common stock as of the record date. Abstentions and broker non-votes will have the same effect as an AGAINST vote (although no broker non-votes are expected to exist in connection with Proposal 3).

To be approved, Proposal 4 (the Adjournment), which relates to the approval of an adjournment of the 2017 Annual Meeting must receive FOR votes from the holders of a majority of the votes present in person or represented by proxy and entitled to vote at the 2017 Annual Meeting of Stockholders. Accordingly, abstentions with respect to this proposal will have the same effect as voting AGAINST. Broker non-votes will have no effect on this proposal (although no broker non-votes are expected to exist in connection with Proposal 4).

To be approved, Proposal 5, which relates to the approval of an increase in the number of shares of common stock that may be granted under our 2010 Stock Incentive Plan, must receive FOR votes from the holders of a majority of the votes present in person or represented by proxy and entitled to vote at the 2017 Annual Meeting of Stockholders. Abstentions will have the same effect as an AGAINST vote. Broker non-votes will have no effect.

We encourage you to vote **FOR** all five (5) proposals.

If your shares are held in street name and you do not indicate how you wish to vote, your broker is permitted to exercise its discretion to vote your shares on certain routine matters. The only routine matters to be submitted to our stockholders at the 2017 Annual Meeting of Stockholders are Proposals 2, 3 and 4. Proposals 1 and 5 are not a routine matter. Accordingly, if you do not direct your broker how to vote for a director in Proposal 1 or how to vote for Proposal 5, your broker may not exercise discretion and may not vote your shares on that proposal.

For purposes of Proposals 1 and 5, broker non-votes are not considered to be votes cast at the meeting and the shares represented by broker non-votes are not entitled to vote at the meeting. As such, a broker non-vote will not be counted as a vote FOR or WITHHELD with respect to a director in Proposal 1 or a vote FOR or AGAINST Proposal 5 and, therefore, will have no effect on the outcome of the vote on any such proposal. Abstentions will be counted in determining the total number of votes cast and the total number of shares present in person or represented by proxy and entitled to vote on each of the proposals and will therefore have the effect of a vote AGAINST on each proposal, except for Proposal 1, where the abstention will have no effect on the outcome of the vote.

**Q: *What should I do if I receive more than one set of voting materials?***

You may receive more than one set of voting materials, including multiple copies of this Proxy Statement and multiple proxy cards or voting instruction cards. For example, if you hold your shares in more than one brokerage account, you will receive a separate voting instruction card for each brokerage account in which you hold shares. If you are a stockholder of record and your shares are registered in more than one name, you will receive more than one proxy card. Please complete, sign, date, and return each proxy card and voting instruction card that you receive.

**Q: *Where can I find the voting results of the 2017 Annual Meeting of Stockholders?***

We intend to announce preliminary voting results at the 2017 Annual Meeting of Stockholders and publish final results in a Current Report on Form 8-K that will be filed with the U.S. Securities and Exchange Commission (the SEC) within four (4) business days after the meeting. If final voting results are not available to us in time to file a Current Report on Form 8-K within four (4) business days after the meeting, we intend to file a Current Report on Form 8-K to publish preliminary results and, within four (4) business days after the final results are known to us, file an additional Current Report on Form 8-K to publish the final results.

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**Q: What happens if additional matters are presented at the 2017 Annual Meeting of Stockholders?**

A: Other than the five (5) items of business described in this Proxy Statement, we are not aware of any other business to be acted upon at the 2017 Annual Meeting of Stockholders. If you grant a proxy, the persons named as proxy holders, Mr. Jeffrey Riley, our Chief Executive Officer, and Mr. Steven Shallcross, our Chief Financial Officer, will have the discretion to vote your shares on any additional matters properly presented for a vote at the meeting. If for any unforeseen reason any of our nominees are not available as a candidate for director, the persons named as proxy holders will vote your proxy for any one or more other candidates nominated by the Board of Directors.

**Q: How many shares are outstanding and how many votes is each share entitled?**

A: Each share of our common stock that is issued and outstanding as of the close of business on July 13, 2017, the record date, is entitled to be voted on all items being voted on at the 2017 Annual Meeting of Stockholders, with each share being entitled to one vote on each matter. On the record date, [ ] shares of common stock were issued and [ ] shares of common stock were outstanding.

**Q: Who will count the votes?**

A: One or more inspectors of election will tabulate the votes.

**Q: Is my vote confidential?**

A: Proxy instructions, ballots, and voting tabulations that identify individual stockholders are handled in a manner that protects your voting privacy. Your vote will not be disclosed, either within our business or to anyone else, except: (1) as necessary to meet applicable legal requirements; (2) to allow for the tabulation of votes and certification of the vote; or (3) to facilitate a successful proxy solicitation.

**Q: Who will bear the cost of soliciting votes for the 2017 Annual Meeting of Stockholders?**

A: The Board of Directors is making this solicitation on our behalf, and we will pay the entire cost of preparing, assembling, printing, mailing, and distributing these proxy materials. Certain of our directors, officers, and employees, without any additional compensation, may also solicit your vote in person, by telephone, or by electronic communication. On request, we will reimburse brokerage houses and other custodians, nominees, and fiduciaries for their reasonable out-of-pocket expenses for forwarding proxy and solicitation materials to stockholders. In addition to the use of the mails, proxies may be solicited by personal interview, telephone, telegram, facsimile and advertisement in periodicals and postings, in each case by our directors, officers and employees without additional compensation. In addition, we have retained D.F. King & Co., Inc. to aid in the solicitation of proxies for this year. We will pay D.F. King & Co., Inc. fees of not more than \$7,500 plus expense reimbursement for its services. We may request by telephone, facsimile, mail, electronic mail or other means of communication the return of the proxy cards. Please contact D.F. King & Co., Inc. at (866) 796-7184 with any questions you may have regarding our proposals.

**Q: When are stockholder proposals and director nominations due for next year's Annual Meeting of Stockholders?**

A: To be considered for inclusion in next year's proxy materials, your proposal must be submitted in writing by \_\_\_\_\_, 2018, to the attention of our Corporate Secretary at Synthetic Biologics, Inc., 9605 Medical Center Drive, Suite 270, Rockville, Maryland 20850, and you must comply with all applicable requirements of Rule 14a-8 promulgated under the Securities Exchange Act of 1934, as amended (the Exchange Act); provided, however, that if our 2018 Annual Meeting of Stockholders is not held between August 23, 2018 and October 8, 2018, to be timely, then the deadline is a reasonable amount of time prior to the date we begin to print and mail our proxy statement for the 2018 Annual Meeting of stockholders.

If you wish to submit a proposal or nominate a director at the 2018 Annual Meeting of Stockholders that is not to be included in next year's proxy materials, you must currently do so in accordance with the charter of the Nominations Committee, which is available on our website at [www.syntheticbiologics.com](http://www.syntheticbiologics.com) in the Investors section and which contains additional requirements about advance notice required of stockholder proposals and director nominations. In addition, you must comply with all applicable requirements of Rule 14a-8 promulgated under the Exchange Act.



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## PROPOSAL 1

### ELECTION OF DIRECTORS

The Board of Directors, based on the recommendation of the Nominations Committee of the Board of Directors, has nominated for annual election as director each of the individuals identified below, all of whom are incumbent directors.

### THE NOMINEES

Name	Age	Position	Director Since
Jeffrey J. Kraws <sup>(1)(2)(3)</sup>	53	Chairman	2006
Jeffrey Riley	54	Chief Executive Officer, President and Director	2010
Scott L. Tarriff <sup>(1)(2)(3)</sup>	58	Director	2012
Jeffrey Wolf, JD <sup>(1)(2)(3)</sup>	54	Director	2006

(1) Member of the Audit Committee.

(2) Member of the Compensation Committee.

(3) Member of the Nominations Committee.

## OUR BOARD OF DIRECTORS RECOMMENDS THAT YOU VOTE YOUR SHARES FOR THE ELECTION OF EACH OF THESE NOMINEES.

It is the intention of the persons named in the accompanying proxy card to vote all shares of common stock for which they have been granted a proxy for the election of each of the nominees, each to serve as a director until the next annual meeting of stockholders and until his successor shall have been duly elected and qualified. All of the nominees have consented to being named in this Proxy Statement and to serve as a director if elected. At the time of the 2017 Annual Meeting of Stockholders, if any of the nominees named above is not available to serve as director (an event that the Board of Directors does not currently have any reason to anticipate), all proxies will be voted for any one or more other persons that the Board of Directors designates. The Board of Directors believes that it is in the best interests of the Company to elect the above-described nominees.

### DIRECTOR INDEPENDENCE

No director or executive officer of the Company is related by blood, marriage or adoption to any other director or executive officer. A majority of our members of our Board of Directors are independent in compliance with the applicable listing standards of the NYSE MKT. The Board of Directors has affirmatively determined that the independent directors and nominees are Jeffrey J. Kraws, Scott L. Tarriff and Jeffrey Wolf.



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## INFORMATION ABOUT THE NOMINEES

Stated below is the principal occupation of each nominee, the business experience of each nominee for at least the past five years, and certain other information relating to the nominees.

**Jeffrey Riley.** Mr. Riley, a member of the Company's Board of Directors since March 2010 and Chairman of the Board from November 2011 to May 2012, was appointed as the Company's President and Chief Executive Officer in February 2012. He has more than 20 years of experience in the biotechnology and pharmaceutical industries during which he negotiated numerous worldwide strategic corporate alliances, established joint ventures, and assisted in obtaining venture financings to support product development. From November 2009 until January 2012, Mr. Riley served as Managing Director of 526 Ventures, a life science-focused venture consulting firm with a commercial and traditional focus. Prior to this, he was a venture partner with QIC Bioventures Fund, the life science-focused venture component of the \$70 billion Australian-based Queensland Investment Corporation (QIC). Over his career, Mr. Riley held senior positions within the mergers & acquisitions and in country management groups at both SmithKline Beecham and Pfizer. Additionally, he served as CFO and VP Corporate Development for Nichols Institute Diagnostics, later acquired by Corning and spun out to Quest Diagnostics, Inc. (NYSE: DGX). Mr. Riley holds a Bachelor of Science degree from Boise State University, completed coursework at UCSF/Berkeley in drug discovery/development and participated in a dual-degree graduate program (MBA/MIM) sponsored by Arizona State University and the Thunderbird School of Global Management.

Mr. Riley brings to the Board extensive knowledge of the pharmaceutical industry. Having served in senior corporate positions in biotech and pharmaceutical companies he has a vast knowledge of the industry. His business experience provides him with a broad understanding of the operational, financial and strategic issues facing public companies.

**Jeffrey J. Kraws.** Mr. Kraws has been a member of the Company's Board of Directors since January of 2006, and was appointed independent, non-executive Chairman of the Board in May 2012. Since 2003, Mr. Kraws has served as Chief Executive Officer and co-founder of Crystal Research Associates and CRA Advisors, and since February 2012, he has served as partner and co-founder of TopHat Capital, LLC. Since August 2016, Mr. Kraws has served as the President of Ra Medical Systems Inc., a private medical device company. Mr. Kraws is a Registered Representative at Terranova Capital Partners, Inc. since October 2014, a partner at Grannus Securities Pty Ltd. (an Australian based private equity fund) since November 2015 and a partner at Phoenix Holdings since November 2015. Well known and respected on Wall Street, Mr. Kraws has received some of the most prestigious awards in the industry. Among other awards, he was given a 5-Star Rating in 2001 by Zacks and was ranked the number one analyst among all pharmaceutical analysts for stock performance in 2001 by Starmine.com. Prior to founding Crystal Research Associates, Mr. Kraws served as co-president of The Investor Relations Group (IRG), a firm representing primarily under-followed, small-capitalization companies. Previously, Mr. Kraws served as a managing director of healthcare research for Ryan Beck & Co. and as director of research/senior pharmaceutical analyst and managing director at Gruntal & Co., LLC (prior to its merger with Ryan Beck & Company). Mr. Kraws served as managing director of the healthcare research group and senior pharmaceutical analyst at First Union Securities (formerly EVEREN Securities); as senior U.S. pharmaceutical analyst for the Swedish-Swiss conglomerate Asea Brown Boveri; and as managing director and president of the Brokerage/Investment Banking operation of ABB Aros Securities, Inc. He also served as senior pharmaceutical analyst at Nationsbank Montgomery Securities, BT Alex Brown & Sons, and Buckingham Research. Mr. Kraws also has industry experience, having been responsible for competitive analysis within the treasury group at Bristol-Myers-Squibb Company. During 2006 through February of 2007, Mr. Kraws served as our Vice President of Business Development, on a part-time basis. Since December 2013, Mr. Kraws serves on the board of directors of Saleen Automotive, Inc. (OTC: SLNN) and since April 2017, Mr. Kraws serves on the board of directors of Avivagen, Inc. (TSXB:VIV, OTC Pink: CHEXF). Mr. Kraws holds an M.B.A. from Cornell University

and a B.S. degree from State University of New York - Buffalo.

Mr. Kraws brings to the Board significant strategic, business and financial experience related to the business and financial issues facing pharmaceutical companies. Mr. Kraws has a broad understanding of the operational, financial and strategic issues facing pharmaceutical companies. Through his services as the Company's Vice President of Business Development during 2006 and a part of 2007, he developed extensive

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knowledge of the Company's business. Mr. Kraws brings a strong business background to the Company, having worked as a pharmaceutical analyst for over 25 years.

**Scott L. Tarriff.** Mr. Tarriff has been a member of the Company's Board of Directors since February 3, 2012. Since January 2007 he has served as a director and Chief Executive Officer of Eagle Pharmaceuticals, Inc., a publicly traded, hospital specialty company. Eagle Pharmaceuticals, Inc. (NASDAQ: EGRX) is focused on developing branded parenteral products through the application of various in-licensed drug delivery technologies. Prior to joining Eagle, Mr. Tarriff held various executive positions at Par Pharmaceutical Companies, Inc., a publicly-traded developer, manufacturer and marketer of specialty pharmaceuticals, including as president and chief executive officer from September 2003 to September 2006, after joining Par in 1998. Mr. Tarriff also served on Par's board of directors from 2002 to September 2006. Prior to that, Mr. Tarriff held various positions with Bristol-Meyers Squibb, a publicly-traded biopharmaceutical company, including senior director marketing. Mr. Tarriff currently serves on the board of directors of Ziopharm Oncology, Inc., a publicly traded company biopharmaceutical company and previously served on the board of directors of Clinical Data, Inc., a publicly-traded pharmaceutical company, from September 2009 to April 2011 when Clinical Data was acquired by Forest Laboratories, Inc. Mr. Tarriff holds a B.S. in marketing from Pennsylvania State University and an M.B.A. from Rider College.

Mr. Tarriff brings to our Board of Directors significant knowledge of and experience in the pharmaceutical and medical industries. He has extensive business, managerial, executive and leadership experience that further qualify him to serve as a member of the Board and a valuable understanding of the role played by the Board of Directors acquired through service on the boards of many companies. He has had a long and successful career in top executive leadership positions with leading, publicly traded pharmaceutical companies including Eagle Pharmaceuticals, Inc., Par Pharmaceutical Companies, Inc. and Bristol-Myers Squibb.

**Jeffrey Wolf, J.D.** Mr. Wolf, who has been a member of the Company's Board of Directors since 2006, has substantial experience in creating, financing, nurturing and growing new ventures based upon breakthrough research and technology. In August 2008, Mr. Wolf founded Heat Biologics, Inc. (NASDAQ: HTBX), a publicly traded company engaged in research and development of drugs focused on combating cancer and other diseases. Since April 2010, Mr. Wolf has served as the Chief Executive Officer and Chairman of the Board of Heat Biologics, Inc. Prior to founding Heat Biologics, Inc., from June 1997 to March 2011, Mr. Wolf has served as managing director at Seed-One Ventures, LLC a venture firm focused on launching and growing exceptional healthcare companies from the ground up. Since founding Seed-One, Mr. Wolf has founded and run several medical companies. Mr. Wolf's start-ups include Avigen, a San Francisco-based gene therapy company where he was a co-founder and director; TyRx Pharma, a Princeton-based company focused on the development of bio-compatible polymers where he was a co-founder and Chairman; EluSys Therapeutics, a New Jersey company focused on the development of novel technology to remove blood-borne pathogens where he was a cofounder, Chairman and Chief Executive Officer; and GenerationOne, a Miami-based company focused on mobile-based collaborative care, where he was the founder, Chairman and Chief Executive Officer. Mr. Wolf received his M.B.A. from Stanford Business School, his J.D. from New York University School of Law and his B.A. from the University of Chicago, where he graduated with honors in Economics. Mr. Wolf serves as a director of several Seed-One portfolio companies.

Mr. Wolf has extensive knowledge of the industry and in particular research and development. His legal and business background provide him with a broad understanding of the legal, operational, financial and strategic issues facing the Company. Having served as a board member on other public company boards, Mr. Wolf has an extensive understanding of the operational, financial and strategic issues facing public companies.



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## INFORMATION REGARDING THE COMMITTEES OF THE BOARD OF DIRECTORS

We formed an Audit Committee, Compensation Committee and Nominations Committee of our Board of Directors in 2007.

### **Audit Committee**

The members of the Audit Committee are Mr. Wolf (Chairman), Mr. Kraws and Mr. Tarriff. The Audit Committee met seven times during the year ended December 31, 2016. The primary purpose of the Audit Committee is to act on behalf of the Board of Directors in its oversight of all material aspects of our accounting and financial reporting processes, internal controls and audit functions, including our compliance with Section 404 of the Sarbanes-Oxley Act of 2002.

The duties of the Audit Committee include the hiring and retaining of our independent registered public accounting firm, which reports to the Audit Committee. The Audit Committee reviews with our independent registered public accounting firm the scope and results of the audit engagement and the system of internal controls and procedures. The Audit Committee also reviews the effectiveness of procedures intended to prevent violations of laws. The Audit Committee also reviews, prior to publication, our quarterly earnings releases and our reports to the SEC on Forms 10-K and 10-Q. The formal report of the Audit Committee for 2016 is set forth under the caption **Report of the Audit Committee** in Proposal 2.

Our Board of Directors has determined that the members of the Audit Committee are independent under the applicable rules of the NYSE MKT and that Mr. Wolf, Mr. Kraws and Mr. Tarriff are each an audit committee financial expert within the meaning of the regulations of the SEC.

Audit Committee members must also satisfy the independence criteria set forth in Rule 10A-3 under the Exchange Act. In order to be considered to be independent for purposes of Rule 10A-3, a member of an Audit Committee of a listed company may not, other than in his or her capacity as a member of the Audit Committee, the Board of Directors, or any other board committee: (1) accept, directly or indirectly, any consulting, advisory or other compensatory fee from the listed company or any of its subsidiaries or (2) be an affiliated person of the listed company or any of its subsidiaries. Each member of our Audit Committee is independent under Rule 10A-3 of the Exchange Act.

The Audit Committee has adopted a formal written charter, a copy of which is available on our website at [www.syntheticbiologics.com](http://www.syntheticbiologics.com) in the Investors section.

### **Compensation Committee**

The members of the Compensation Committee are Mr. Kraws (Chairman), Mr. Tarriff and Mr. Wolf. The Compensation Committee met four times during the year ended December 31, 2016. The Compensation Committee determines, approves, and reports to the Board of Directors on all elements of compensation of our executive officers. Our Board of Directors has determined that the members of the Compensation Committee are independent under the applicable rules of the NYSE MKT.

Our Compensation Committee annually reviews the compensation program for our Chief Executive Officer and other members of senior management and then makes recommendations to the full Board of Directors for determination. In each case, the Compensation Committee takes into account the results achieved by the executive, his future potential, and his scope of responsibilities and experience. Our Chief Executive Officer makes recommendations to the Compensation Committee regarding the compensation of our Chief Financial Officer and other members of management but does not participate in any discussions or processes concerning his own compensation, and does not vote on the compensation of our Chief Financial Officer and other members of management.

During the year ended December 31, 2016, the Compensation Committee evaluated the performance of our executives and other members of senior management and considered the compensation levels and equity programs at comparable companies and related industries before it made its compensation recommendations to the full Board, including recommendations regarding salary increases, awards of cash bonuses and awards of stock options.

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The Compensation Committee administers our stock plan, including review and recommendation of long-term incentive compensation for each executive, director and employee, including grants of stock options. The Compensation Committee believes that this long-term incentive compensation aligns the interests of our executives with those of our stockholders and furthers executive retention.

The Compensation Committee also reviews and recommends to the Board of Directors appropriate director compensation programs for service as directors, Committee chairs and Committee members.

The Compensation Committee operates under a formal charter that governs its duties and standards of performance. A copy of the charter is available on our website at [www.syntheticbiologics.com](http://www.syntheticbiologics.com) in the Investors section.

## **Nominations Committee**

The members of the Nominations Committee are Mr. Tarriff (Chairman), Mr. Kraws and Mr. Wolf. Our Board of Directors has determined that the members of the Nominations Committee are independent under the applicable rules of the NYSE MKT. The Nominations Committee met one time during the year ended December 31, 2016. The Nominations Committee performs the following functions:

It considers and recommends to the Board of Directors individuals for appointment or election as directors; It makes recommendations to the Board of Directors regarding any changes to the size of the Board of Directors or any Committee;

It reports to the Board of Directors on a regular basis; and

It performs any other duties or responsibilities expressly delegated to it by the Board of Directors relating to Board or Committee members.

Candidates for director should have certain minimum qualifications, including the ability to understand basic financial statements, being over 21 years of age, having relevant business experience (taking into account the business experience of the other directors), and having high moral character. The Nominations Committee retains the right to modify these minimum qualifications from time to time.

In evaluating an incumbent director whose term of office is set to expire, the Nominations Committee reviews such director's overall service to the Company during such director's term, including the number of meetings attended, level of participation, quality of performance, and any transactions with the Company engaged in by such director during his term.

When selecting a new director nominee, the Nominations Committee first determines whether the nominee must be independent for NYSE MKT purposes or whether the candidate must qualify as an audit committee financial expert. The Nominations Committee then uses its network of contacts to compile a list of potential candidates, but may also engage, if it deems appropriate, a professional search firm to assist in the identification of qualified director candidates. The Nominations Committee also will consider nominees recommended by our stockholders. The Nominations Committee does not distinguish between nominees recommended by our stockholders and those recommended by other parties. The Nominations Committee evaluates the suitability of potential nominees, taking into account the current composition of the Board of Directors, including expertise, diversity and the balance of inside and independent directors. The Nominations Committee endeavors to establish a diversity of background and experience in a number of areas of core competency, including business judgment, management, accounting, finance, knowledge of our industry, strategic vision, research and development and other areas relevant to our business.

Under our current governing documents, stockholders wishing to directly recommend candidates for election to the

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Board of Directors at our next annual meeting to be included in our Proxy Statement must do so by giving written notice to: Chairman of the Nominations Committee, Synthetic Biologics, Inc., 9605 Medical Center Drive, Suite 270, Rockville, Maryland 20850. Any such notice must be delivered to the Chairman not less than 120 days prior to the anniversary of the preceding year's annual meeting. The notice must state: (1) the name and address of the stockholder making the recommendations; (2) the name, age, business address, and residential address of each person recommended; (3) the principal occupation or

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employment of each person recommended; (4) the class and number of shares of the Company's stock that are beneficially owned by each person recommended and by the recommending stockholder; (5) any other information concerning the persons recommended that must be disclosed in nominee and proxy solicitations in accordance with Regulation 14A of the Exchange Act; and (6) a signed consent of each person recommended stating that he or she consents to serve as a director of the Company if elected.

In considering any person recommended by one of our stockholders, the Nominations Committee will look for the same qualifications that it looks for in any other person that it is considering for a position on the Board of Directors. Any stockholder nominee recommended by the Committee and proposed by the Board of Directors for election at the next annual meeting of stockholders will be included in the Company's Proxy Statement for that annual meeting.

The Nominations Committee operates under a formal charter that governs its duties and standards of performance. A copy of the charter is available on our website at [www.syntheticbiologics.com](http://www.syntheticbiologics.com) in the Investors section.

## **Board Leadership Structure**

We currently have two separate people serving as our Chairman of the Board of Directors and as our Chief Executive Officer, and we do not have a formal policy on whether the same person should (or should not) serve as both the Chief Executive Officer and Chairman of the Board of Directors. Due to the size of our company, we believe that this structure is appropriate in recognition of the time commitment and activities required to function effectively as a Chairman and as a Chief Executive Officer. Mr. Kraws has served as the Chairman of the Board of Directors since May 2012. Mr. Riley has served as our Chief Executive Officer since February 2012. In serving as Chairman of the Board of Directors, Mr. Kraws serves as a significant resource for our Chief Executive Officer, other members of management and the Board of Directors. We believe that the division of duties and additional avenues of communication between the Board of Directors and management with Mr. Kraws serving as Chairman of the Board of Directors provides a basis for the proper functioning of our Board of Directors and oversight of management.

We do not have a separate lead independent director. We believe the combination of Mr. Kraws as our Chairman of the Board and Mr. Riley as our Chief Executive Officer is an effective structure for us. Our current structure is operating effectively to foster productive, timely and efficient communication among the independent directors and management. We do have active participation in our Committees by our independent directors, who comprise all of the members of all of our Committees. Each Committee performs an active role in overseeing our management and there are complete and open lines of communication with the management and independent directors.

## **Oversight of Risk Management**

The Board of Directors has an active role, as a whole and also at the Committee level, in overseeing management of our risks. The Board of Directors regularly reviews information regarding our strategy, finances and operations, as well as the risks associated with each. The Audit Committee is responsible for oversight of our risks relating to accounting matters, financial reporting and legal and regulatory compliance. The Audit Committee undertakes, at least annually, a review to evaluate these risks. Individual members of the Audit Committee are each assigned an area of risk to oversee. The members then meet separately with management responsible for such area, including our Chief Financial Officer, internal auditor and counsel, and report to the Audit Committee on any matters identified during such discussions with management. Our Compensation Committee is responsible for overseeing the management of risks relating to our executive compensation plans and arrangements. While each Committee is responsible for evaluating certain risks and overseeing the management of such risks, the entire Board of Directors is regularly informed through Committee reports about such risks.



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## **STOCKHOLDER COMMUNICATIONS WITH THE BOARD OF DIRECTORS**

Stockholders may direct any communications intended for the Board of Directors to our Corporate Secretary by telephone at (301) 417-4364, by facsimile at (301) 417-4367, or by mail to Synthetic Biologics, Inc., 9605 Medical Center Drive, Suite 270, Rockville, Maryland 20850.

This centralized process assists the Board of Directors in reviewing and responding to stockholder communications in an appropriate manner. If a stockholder wishes to direct any communication to a specific member of the Board of Directors, the name of that member of the Board of Directors should be noted in the communication. The Board of Directors has instructed the Corporate Secretary to forward stockholder correspondence only to the intended recipients, and has also instructed the Corporate Secretary to review all stockholder correspondence and, in the Corporate Secretary's discretion, refrain from forwarding any items deemed to be of a commercial or frivolous nature or otherwise inappropriate for the Board of Directors' consideration. Any such items may be forwarded elsewhere in the Company for review and possible response.

## **BOARD AND COMMITTEE MEETINGS**

During the year ended December 31, 2016, the Board of Directors held thirteen (13) meetings. During the year ended December 31, 2016, our Audit, Compensation and Nominations Committees met seven (7) times, four (4) times and one (1) time, respectively. Each director attended at least ninety five percent (95%) of the aggregate of all meetings of the Board of Directors and all of the Committee meetings, for the Committees on which he serves.

## **DIRECTOR ATTENDANCE AT ANNUAL MEETINGS**

Our directors are encouraged, but not required, to attend our Annual Meetings of Stockholders. Two of our directors attended the 2016 Annual Meeting of Stockholders in person and one attended telephonically.

## **SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE**

Section 16(a) of the Exchange Act requires our executive officers, directors and persons who beneficially own more than ten percent (10%) 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 common stock. Such officers, directors and persons are required by SEC regulation to furnish us with copies of all Section 16(a) forms that they file with the SEC.

Based solely on a review of the copies of such forms that were received by us, or written representations from certain reporting persons that no Forms 5 were required for those persons, we are not aware of any failures to file reports or report transactions in a timely manner during the year ended December 31, 2016.

## CORPORATE GOVERNANCE

We operate according to a comprehensive plan of corporate governance for the purpose of defining responsibilities, setting high standards of professional and personal conduct, and assuring compliance with those responsibilities and standards. We regularly monitor developments in the area of corporate governance and will continue to monitor developments and make adjustments from time to time to ensure compliance in this area. Information regarding our corporate governance that is not provided below is described elsewhere in this Proxy Statement.

### Code of Conduct

We adopted a Code of Conduct that applies to all of our directors, officers and employees. The Code of Conduct is intended to promote honest and ethical conduct, full, accurate and timely disclosure, and compliance with all applicable laws and government regulations. A copy of the Code of Conduct is available on our website at [www.syntheticbiologics.com](http://www.syntheticbiologics.com) in the Investors section. If we make any substantive amendments to the Code of Conduct or grant any waiver from a provision of the Code of Conduct to any director or officer, we will promptly disclose the nature of the amendment or waiver on our website.

TABLE OF CONTENTS**Code of Ethics for Financial Management**

We adopted a Code of Ethics for Financial Management that applies to all persons responsible for our financial management. The Code of Ethics for Financial Management is intended to promote professional conduct in our financial management. A copy of our Code of Ethics for Financial Management is available on our website at [www.syntheticbiologics.com](http://www.syntheticbiologics.com) in the Investors section. Violations of the Code of Ethics for Financial Management may be reported anonymously to our Audit Committee and may result in disciplinary action. If we make any substantive amendments to the Code of Ethics for Financial Management or grant any waiver from a provision of the Code of Ethics for Financial Management to any director or officer, we will promptly disclose the nature of the amendment or waiver on our website.

**DIRECTOR COMPENSATION**

The following table sets forth information for the year ended December 31, 2016 regarding the compensation of our directors who at December 31, 2016 were not also our Named Executive Officers.

Name	Fees Earned or Paid in Cash	Option Awards <sup>(1)(3)</sup>	Other Compensation	Total
Jeffrey J. Krawns <sup>(2)</sup>	\$ 169,000	\$ 109,000	\$	\$ 278,000
Scott L. Tarriff	\$ 48,000	\$ 109,000	\$	\$ 157,000
Jeffrey Wolf	\$ 54,000	\$ 109,000	\$	\$ 163,000

- The amounts in the Option Awards column reflect the dollar amounts of the grant date fair value for the financial statement reporting purposes for stock options for the fiscal year ended December 31, 2016 in accordance with ASC 718. The fair value of the options was determined using the Black-Scholes model. For a discussion of the assumptions used in computing this valuation, see Management's Discussion and Analysis of Financial Conditions and Results of Operations and Note 4 of the Notes to Consolidated Financial Statements in our Annual Report on Form 10-K for the fiscal year ended December 31, 2016.
- (1) Mr. Krawns was appointed as our independent, non-executive Chairman of the Board of Directors in May 2012. Pursuant to his agreement he receives an annual retainer of \$150,000 for serving as our Chairman.
- (2) As of December 31, 2016, the following are the outstanding aggregate number of option awards held by each of our directors who were not also Named Executive Officers:

Name	Option Awards (#)
Jeffrey J. Krawns	810,855
Scott L. Tarriff	473,750
Jeffrey Wolf	521,240

During 2016, the cash compensation of non-employee members of the Board of Directors remained the same as the compensation for 2015. During 2016 and currently, each non-employee member of the Board of Directors receives an annual cash retainer of \$43,000, our independent, non-executive Chairman of the Board of Directors receives an annual cash retainer of \$150,000, all non-employee directors receive an annual cash fee of \$7,500, \$5,000 and \$3,250 for service on the Audit, Compensation and Nominations Committees, respectively, and the Chairman of the Audit,

Compensation and Nominations Committees receive an additional annual cash fee of \$13,500, \$10,000 and \$6,000, respectively. In addition, in 2016 each non-employee member of the Board of Directors was issued an option exercisable for 168,750 shares of our common stock, for a term of seven years, vesting annually on a pro rata basis over a three year period, with one-third of the grant vesting on the date of grant and one-third vesting on each of the next two yearly anniversaries.

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## **LIMITS ON LIABILITY AND INDEMNIFICATION**

Our Articles of Incorporation and Amended and Restated By-Laws provide that we will indemnify and hold harmless each person who serves at any time as a director or officer from and against any and all claims, judgments and liabilities to which such person shall become subject by reason of the fact that he or she is or was a director or officer of the Company, and shall reimburse such person for all legal and other expenses reasonably incurred by him or her in connection with any such claim or liability. We believe that this indemnification covers at least negligence and gross negligence on the part of the indemnified parties. Insofar as indemnification for liabilities under the Securities Act of 1933, as amended (the Securities Act ) may be permitted to directors, officers, and controlling persons of the Company under the foregoing provisions or otherwise, we have been advised that in the opinion of the SEC that indemnification is against public policy as expressed in the Securities Act, and is therefore unenforceable. We entered into an indemnification agreement with each of our directors and officers. The agreement confirms our obligation to indemnify the directors and officers to the fullest extent authorized by our Articles of Incorporation and Amended and Restated By-Laws and supplements the indemnification otherwise available to the covered person under our Articles of Incorporation and Amended and Restated By-Laws. The form of indemnification agreement was described and filed as an exhibit to the Form 8-K we filed with the SEC on January 6, 2009.

## **COMPENSATION COMMITTEE INTERLOCKS**

During the last fiscal year ended December 31, 2016, none of our executive officers served on the Board of Directors or Compensation Committee of any other entity whose officers served either on our Board of Directors or Compensation Committee.

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**PROPOSAL 2**

**RATIFICATION OF APPOINTMENT OF  
INDEPENDENT REGISTERED PUBLIC ACCOUNTING  
FIRM**

The Audit Committee of the Board of Directors has appointed BDO USA, LLP as our independent registered public accounting firm for the year ended December 31, 2017.

Ratification of the appointment of BDO USA, LLP by our stockholders is not required by law, our bylaws or other governing documents. As a matter of policy, however, the appointment is being submitted to our stockholders for ratification at the 2017 Annual Meeting of Stockholders. If our stockholders fail to ratify the appointment, the Audit Committee will reconsider whether or not to retain that firm. Even if the appointment is ratified, the Audit Committee 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.

At the 2017 Annual Meeting of Stockholders, the representatives of BDO USA, LLP are expected to be available in person to respond to appropriate questions and will be afforded an opportunity to make a statement if they so desire.

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# REPORT OF THE AUDIT COMMITTEE OF THE BOARD OF DIRECTORS<sup>(1)</sup>

Our Audit Committee reviews our financial reporting process on behalf of our Board of Directors. In January 2007, our Board of Directors adopted a written charter for our Audit Committee, which it re-evaluates annually in connection with the filing of our Annual Report on Form 10-K with the SEC. In fulfilling its responsibilities, the Audit Committee has reviewed and discussed the audited financial statements contained in the Annual Report on Form 10-K for the year ended December 31, 2016, with our management and our independent registered public accounting firm for such year, BDO USA, LLP. Our management is responsible for the financial statements and the reporting process, including the system of internal controls. The independent registered public accounting firm is responsible for expressing an opinion on the conformity of those audited financial statements with accounting principles generally accepted in the United States.

The Audit Committee (1) discussed with BDO USA, LLP the matters required to be discussed by the Public Company Accounting Oversight Board ( PCAOB ) Auditing Standard No. 1301, *Communications with Audit Committees*, as amended and adopted by the PCAOB in Rule 3200T; (2) received the written disclosures and the letter from BDO USA, LLP required by PCAOB Ethics and Independence Rule 3526, *Communication with Audit Committees Concerning Independence*; and (3) discussed with BDO USA, LLP its independence. The Audit Committee also considered whether, and determined that, the independent registered public accounting firm's provision of other non-audit services to us was compatible with maintaining BDO USA, LLP's independence.

During 2016, management evaluated our system of internal control over financial reporting in accordance with the requirements set forth in Section 404 of the Sarbanes-Oxley Act of 2002 and related regulations. The Audit Committee was kept apprised of the progress of the evaluation and provided oversight and advice to management during the process. In connection with this oversight, the Audit Committee received periodic updates provided by management and the independent registered public accounting firm at each regularly scheduled Audit Committee meeting. At the conclusion of the process, management provided the Audit Committee with a report on the effectiveness of our internal control over financial reporting. The Audit Committee also reviewed the report of management contained in our 2016 Annual Report on Form 10-K, as well as the Reports of Independent Registered Public Accounting Firm (included in the 2016 Annual Report on Form 10-K). These reports related to its audit of (1) the consolidated financial statements; and (2) the effectiveness of internal control over financial reporting. The Audit Committee continues to oversee our efforts related to our internal control over financial reporting and management's preparations for the evaluations in 2016.

You should note the members of our Audit Committee are not our employees and are not performing the functions of auditors or accountants. Accordingly, it is not the duty or responsibility of the Audit Committee or its members to conduct field work or other types of auditing or accounting reviews or procedures or to set auditor independence standards. Members of the Audit Committee necessarily rely on the information provided to them by management and the independent auditors. Accordingly, the Audit Committee's considerations and discussions referred to above do not constitute assurance that the audit of our financial statements has been carried out in accordance with generally accepted accounting principles or that our auditors are in fact independent.

Based on the review and discussions referred to above, the Audit Committee recommended to our Board of Directors (and our Board of Directors approved) that the audited financial statements be included in our Annual Report on Form 10-K for the year ended December 31, 2016, for filing with the SEC. In addition, the Audit Committee recommended to our Board of Directors and our Board of Directors approved that BDO USA, LLP be appointed as our independent

registered public accounting firm for the year ended December 31, 2017 and that this appointment be presented to stockholders for ratification.

Members of the Audit Committee:

Jeffrey Wolf (Chairman)

Jeffrey J. Kraws

Scott L. Tarriff

The material in this report is not soliciting material, is not deemed filed with the SEC and is not to be incorporated (1) by reference in any filing of the Company under the Securities Act or the Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

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TABLE OF CONTENTS**AUDIT FEES AND ALL OTHER FEES**

The following table sets forth the aggregate fees including expenses billed to us for the years ended December 31, 2016 and 2015 by BDO USA, LLP ( BDO ).

	December 31	
	2016	2015
Audit Fees <sup>(1)</sup>	\$ 346,388	\$ 283,600
Audit-Related Fees <sup>(2)</sup>	34,613	13,400
Tax Fees <sup>(3)</sup>	17,500	17,230
All Other Fees <sup>(4)</sup>		
Total Fees	\$ 398,451	\$ 314,230

Audit Fees consist of fees billed for professional services performed by BDO for the audit of our financial (1) statements, the review of interim financial statements, and related services that are normally provided in connection with registration statements.

(2) Audit-Related Fees consist of fees billed by BDO for professional services that are reasonably related to the performance of the audit or review of our financial statements.

(3) Tax Fees relate to professional services rendered in connection with tax audits, and tax return preparation services.

(4) There were no other fees billed by BDO.

In connection with the audit of the 2016 financial statements, the Company entered into an engagement agreement with BDO that sets forth the terms by which BDO will perform audit services for the Company. That agreement is subject to alternative dispute resolution procedures and an exclusion of punitive damages.

**Audit Committee Pre-Approval Policy**

The Audit Committee has adopted procedures for pre-approving all audit and non-audit services provided by the independent registered public accounting firm, including the fees and terms of such services. These procedures include reviewing detailed back-up documentation for audit and permitted non-audit services. The documentation includes a description of, and a budgeted amount for, particular categories of non-audit services that are recurring in nature and therefore anticipated at the time that the budget is submitted. Audit Committee approval is required to exceed the pre-approved amount for a particular category of non-audit services and to engage the independent registered public accounting firm for any non-audit services not included in those pre-approved amounts. For both types of pre-approval, the Audit Committee considers whether such services are consistent with the rules on auditor independence promulgated by the SEC and the PCAOB. The Audit Committee also considers whether the independent registered public accounting firm is best positioned to provide the most effective and efficient service, based on such reasons as the auditor's familiarity with our business, people, culture, accounting systems, risk profile, and whether the services enhance our ability to manage or control risks and improve audit quality. The Audit Committee may form and delegate pre-approval authority to subcommittees consisting of one or more members of the Audit Committee, and such subcommittees must report any pre-approval decisions to the Audit Committee at its next scheduled meeting. All of the services provided by the independent registered public accounting firm were pre-approved by the Audit Committee.

**OUR BOARD OF DIRECTORS UNANIMOUSLY  
RECOMMENDS THAT YOU VOTE FOR RATIFICATION  
OF THE SELECTION OF BDO AS OUR INDEPENDENT  
REGISTERED PUBLIC ACCOUNTING FIRM FOR THE  
YEAR ENDING DECEMBER 31, 2017.**

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**PROPOSAL 3**

**APPROVAL OF AN AMENDMENT TO OUR ARTICLES OF INCORPORATION TO INCREASE THE NUMBER OF AUTHORIZED SHARES OF COMMON STOCK**

Our Board of Directors has unanimously approved an amendment to our Articles of Incorporation to increase the number of shares of authorized common stock from 250,000,000 shares to 350,000,000 shares, as further described below (the Authorized Share Increase ). If approved, the Authorized Share Increase would be effected by amending Article 3 of our Articles of Incorporation to reflect the Authorized Share Increase. The full text of the proposed amended Article 3 of our Articles of Incorporation is attached to this Proxy Statement as Appendix A.

The Board of Directors proposes and recommends increasing the number of shares of authorized common stock from the 250,000,000 shares that are currently authorized for issuance pursuant to our Articles of Incorporation to a total of 350,000,000 shares of common stock. Of our 250,000,000 shares of currently authorized common stock, [\_\_\_\_\_] shares were outstanding as of July 13, 2017, and after taking into account (i) shares underlying outstanding warrants, and (ii) the reservation of shares for issuance under our stock incentive plans, approximately [\_\_\_\_\_] of the 250,000,000 shares authorized in our Articles of Incorporation would be available for issuance.

The chart below illustrates the number of shares of common stock that will be available for issuance if the Authorized Share Increase is effected. The number of shares disclosed in the column Estimated number of shares of Common Stock after the Authorized Share Increase gives further effect to the Authorized Share Increase in the number of authorized shares of Common Stock from 250,000,000 to 350,000,000.

	ESTIMATED NUMBER OF SHARES OF COMMON STOCK BEFORE INCREASE	ESTIMATED NUMBER OF SHARES OF COMMON STOCK AFTER THE INCREASE
Authorized	250,000,000	350,000,000
Issued and Outstanding		
Issuable under Outstanding Warrants		
Issuable under Outstanding Stock Options		
Reserved for Issuance <sup>(1)</sup>		
Authorized but Unissued <sup>(2)</sup>		

(1) Shares reserved for future issuance under our existing equity incentive plans, excluding shares issuable under outstanding stock options.

(2) Shares authorized but unissued represent common stock available for future issuance beyond shares currently outstanding, shares issuable under outstanding warrants and stock options, and shares reserved for issuance under equity incentive plans.

## Reasons for the Proposal

The Board of Directors believes that the Authorized Share Increase is advisable and in our and our stockholders best interests. The Authorized Share Increase will provide us with flexibility in completing financing and capital raising transactions, which may be necessary for us to execute our future business plans. Other possible business and financial uses for the additional shares of common stock include, without limitation, attracting and retaining employees by the issuance of additional securities, and other transactions and corporate purposes that the Board of Directors may deem are in our best interest. We could also use the additional shares of common stock for potential strategic transactions, including, among other things, acquisitions, strategic partnerships, joint ventures, restructurings, business combinations and investments. We believe that the additional authorized shares would enable us to act quickly in response to opportunities that may arise for these types of transactions, in most cases without the necessity of obtaining further stockholder approval and holding a special stockholders meeting before such issuance(s) could proceed, except as provided under Nevada law or under applicable NYSE MKT rules. As of the date hereof, other than upon issuance of currently outstanding securities exercisable into or convertible into the common stock, we have no arrangements or understandings regarding the additional shares that would be authorized or immediate plans to

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consummate any such transactions. However, we review and evaluate potential capital raising activities, transactions and other corporate actions on an ongoing basis to determine if such actions would be in our and our stockholders best interests. We cannot provide assurances that any such transactions will be consummated on favorable terms or at all, that they will enhance stockholder value, or that they will not adversely affect our business or the trading price of the common stock.

### **Possible Effects of the Authorized Share Increase**

The newly authorized shares of common stock will have all the powers, preferences, and rights of the shares of common stock presently authorized. Therefore, approval of the Authorized Share Increase and any subsequent issuance of additional shares of common stock would not affect a current common stockholder's rights as a stockholder, except for any dilutive effects of a potential increase in the number of outstanding shares of common stock to, among other things, earnings per share, book value per share, and the voting power of current holders of our common stock. The Authorized Share Increase would not have any immediate dilutive effect on the proportionate voting power or other rights of existing stockholders.

As is true for shares presently authorized but unissued, the future issuance of common stock authorized by the Authorized Share Increase may, among other things, decrease existing stockholders' percentage equity ownership and, depending on the price at which they are issued, could be dilutive to the voting rights of existing stockholders and have a negative effect on the market price of the common stock.

### **Potential Anti-takeover Effects of the Authorized Share Increase**

Release No. 34-15230 of the staff of the SEC requires disclosure and discussion of the effects of any action, including the proposals discussed herein, that may be used as an anti-takeover mechanism. Since the Authorized Share Increase will provide that the number of authorized shares of common stock will be 350,000,000, the Authorized Share Increase, if effected, will result in a relative increase in the number of authorized but unissued shares of our common stock vis-à-vis the outstanding shares of our common stock and, could, under certain circumstances, have an anti-takeover effect, although this is not the purpose or intent of our Board of Directors. A relative increase in the number of authorized shares of common stock could have other effects on our stockholders, depending upon the exact nature and circumstances of any actual issuances of authorized but unissued shares. A relative increase in our authorized shares could potentially deter takeovers, including takeovers that our Board of Directors has determined are not in the best interest of our stockholders, in that additional shares could be issued (within the limits imposed by applicable law and the NYSE MKT) in one or more transactions that could make a change in control or takeover more difficult. For example, we could issue additional shares so as to dilute the stock ownership or voting rights of persons seeking to obtain control without our agreement. Similarly, the issuance of additional shares to certain persons allied with our management could have the effect of making it more difficult to remove our current management by diluting the stock ownership or voting rights of persons seeking to cause such removal. The Authorized Share Increase therefore may have the effect of discouraging unsolicited takeover attempts. By potentially discouraging initiation of any such unsolicited takeover attempts, the Authorized Share Increase may limit the opportunity for our stockholders to dispose of their shares at the higher price generally available in takeover attempts or that may be available under a merger proposal.

We have not proposed the increase in the number of authorized shares of common stock with the intention of using the additional authorized shares for anti-takeover purposes, but we would be able to use the additional shares to oppose a hostile takeover attempt or delay or prevent changes in our control or our management. For example, without further stockholder approval, the Board of Directors could authorize the sale of shares of common stock in a private

transaction to purchasers who would oppose a takeover or favor our current Board of Directors. Although the Authorized Share Increase has been prompted by business and financial considerations and not by the threat of any known or threatened hostile takeover attempt, stockholders should be aware that the effect of the Authorized Share Increase could facilitate future attempts by us to oppose changes in our control and perpetuate our management, including transactions in which the stockholders might otherwise receive a premium for their shares over then current market prices. We cannot provide assurances that any such transactions will be consummated on favorable terms or at all, that they will enhance stockholder value, or that they will not adversely affect our business or the trading price of the common stock.

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## **Consequences if Stockholder Approval for Proposal Is Not Obtained**

If stockholder approval for Proposal No. 3 is not obtained, we will not be able to file a certificate of amendment to our Articles of Incorporation to effect the Authorized Share Increase, and our limited number of authorized shares of the common stock that are neither outstanding nor reserved for issuance could adversely affect our ability to raise capital through equity financings and engage in other transactions.

## **Vote Required to Approve Authorized Share Increase**

Approval of the certificate of amendment to our Articles of Incorporation included as Appendix A, and to authorize our Board of Directors to effect the Authorized Share Increase requires an affirmative vote of a majority of the common stock outstanding and entitled to vote at the 2017 Annual Meeting of Stockholders as of the record date. Abstentions and broker non-votes (to the extent a broker does not exercise its authority to vote, although we do not expect any broker non-votes) will be counted towards the vote total for this proposal and will have the same effect as against votes.

## **Recommendation**

**OUR BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE FOR APPROVAL OF THE AMENDMENT TO OUR ARTICLES OF INCORPORATION TO INCREASE THE NUMBER OF AUTHORIZED SHARES OF COMMON STOCK.**

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## **PROPOSAL 4**

### **THE ADJOURNMENT OF THE ANNUAL MEETING**

Our stockholders are being asked to consider and vote upon an adjournment of the 2017 Annual Meeting of Stockholders, if necessary, if a quorum is present, to solicit additional proxies if there are not sufficient votes in favor of approval of a proposed amendment to our Articles of Incorporation, as amended, to effectuate the Authorized Increase described in Proposal 3.

#### **Vote Required**

Approval of the adjournment of the 2017 Annual Meeting of Stockholders requires an affirmative vote of a majority of the votes properly cast for or against this proposal at the 2017 Annual Meeting of Stockholders. Accordingly, abstentions on this proposal will have the same effect as a vote against the proposal. Broker non-votes (to the extent a broker does not exercise its authority to vote) will not be counted towards, and will have no effect on, the vote total for this proposal.

**THE BOARD OF DIRECTORS RECOMMENDS A VOTE TO APPROVE THE ADJOURNMENT OF THE ANNUAL MEETING, IF A QUORUM IS PRESENT, TO SOLICIT ADDITIONAL PROXIES IF THERE ARE NOT SUFFICIENT VOTES TO APPROVE PROPOSAL 3, AND PROXIES SOLICITED BY THE BOARD WILL BE VOTED IN FAVOR OF THE ADJOURNMENT UNLESS A STOCKHOLDER HAS INDICATED OTHERWISE ON THE PROXY.**

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**PROPOSAL 5**

**APPROVAL OF AN AMENDMENT TO OUR 2010 STOCK INCENTIVE PLAN TO INCREASE THE NUMBER OF SHARES OF COMMON STOCK THAT WE WILL HAVE AUTHORITY TO GRANT UNDER THE PLAN FROM 14,000,000 TO 17,500,000**

In November, 2010, the Board of Directors adopted, and our stockholders subsequently approved, the 2010 Stock Incentive Plan (the "Plan"). As of July 1, 2017, there were 3,184,273 shares of common stock available for grant under the Plan.

As of July 1, 2017, 10,745,591 shares of common stock subject to awards were outstanding under the Plan. In an effort to preserve cash and to attract, retain and motivate persons who make important contributions to our business, we like the flexibility of issuing securities to our officers, directors, employees, and consultants. The Plan currently only has a limited number of shares of common stock reserved for issuance. Management believes that the number of shares of common stock currently available for issuance under the Plan is insufficient to meet its needs to provide for awards to the Plan participants for the next 12 months and insufficient in order to allow us the ability to compete successfully for talented employees and consultants, especially due to the fact that recently our per share price has hovered at historically low prices. In addition to providing flexibility to grant a greater number of awards under the Plan, the increase is also appropriate in view of the potentially significant increase in the number of individuals who will be eligible to receive awards under the Plan. It is anticipated that over the next year our number of employees will increase as we continue pursuit of our commercial and clinical development programs and pre-clinical studies.

The Board of Directors has approved, subject to stockholder approval, the amendment to the Plan to increase by 3,500,000 the number of shares that may be granted under the Plan. The amendment to our Plan will increase the total number of shares of common stock with respect to which awards may be granted under the Plan from 14,000,000 to 17,500,000.

If Proposal 5 is approved by our stockholders, the amendments to the Plan will become effective upon the date of the 2017 Annual Meeting. In the event stockholders do not approve Proposal 3, the amendments to the Plan will not become effective and the Plan will continue in its current form. Without the amendments we believe the common stock available for grant under the Plan will be insufficient to meet our anticipated recruiting and retention needs.

The principal provisions of the Plan, as amended, are summarized below and the Plan, which incorporates the amendment to the Plan discussed above, is attached hereto as Appendix B. The following discussion is qualified in its entirety by reference to the Plan.

**Purpose of the Plan**

The Board of Directors believes that the Plan is necessary for us to attract, retain and motivate our employees, directors and consultants through the grant of stock options, stock appreciation rights, restricted stock, restricted stock

units and other equity-based or equity-related awards. We believe the Plan is best designed to provide the proper incentives for our employees, directors and consultants, ensures our ability to make performance-based awards, and meets the requirements of applicable law. There are currently 32 individuals that would be eligible to participate in the Plan, of which six are directors or executive officers and 26 are employees.

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We manage our long-term stockholder dilution by limiting the number of equity incentive awards granted annually. The Board of Directors monitors our annual stock award Burn Rate, Dilution and Overhang (each as defined below), among other factors, in its efforts to maximize stockholders' value by granting what, in the Board of Directors judgment, are the appropriate number of equity incentive awards necessary to attract, reward, and retain employees, consultants and directors. The table below illustrates our Burn Rate, Dilution, and Overhang for the past three fiscal years with details of each calculation noted below the table.

	2016	2015	2014
<b>Burn Rate<sup>(1)</sup></b>	<b>4.10 %</b>	<b>4.69 %</b>	<b>3.85 %</b>
<b>Dilution<sup>(2)</sup></b>	<b>11.46 %</b>	<b>10.40 %</b>	<b>10.94 %</b>
<b>Overhang<sup>(3)</sup></b>	<b>8.79 %</b>	<b>8.82 %</b>	<b>7.35 %</b>

(1) Burn Rate is number of shares subject to equity awards granted during a fiscal year/weighted average common shares outstanding for that fiscal year.

(2) Dilution is (number of shares subject to equity awards + the number of shares available for future awards at the end of a fiscal year)/(number of shares outstanding at the end of the fiscal year + number of share subject to equity awards + number of shares available for future awards).

(3) Overhang is (number of shares subject to equity awards at the end of a fiscal year)/(number of shares outstanding at the end of the fiscal year + number of shares subject to equity awards + number of shares available for future awards).

**Administration**

The Plan generally is administered by the Compensation Committee of our Board of Directors. The administrator of the Plan will have full authority to establish rules and regulations for the proper administration of the Plan, to select the employees, directors and consultants to whom awards are granted, and to set the date of grant, the type of award and the other terms and conditions of the awards, consistent with the terms of the Plan. The administrator of the Plan may modify outstanding awards as provided in the Plan.

**Limitation on Awards and Shares Available**

As of July 1, 2017, there were 3,184,273 shares of our common stock available for grants that may be made under the Plan.

**Eligibility**

Persons eligible to participate in the Plan include all of our employees, directors and consultants.

**Awards**

The Plan provides for the grant of: (i) incentive stock options; (ii) nonqualified stock options; (iii) stock appreciation rights; (iv) restricted stock; (v) restricted stock units; and (vi) other stock-based awards to eligible individuals. The terms of the awards will be set forth in an award agreement, consistent with the terms of the Plan. No stock option will be exercisable later than ten years after the date it is granted.

The Plan administrator is authorized to grant awards intended to qualify as performance-based compensation under Section 162(m) of the Internal Revenue Code of 1986, as amended (the Code).

Stock Options. The Plan administrator may grant incentive stock options as defined in Section 422 of the Code and nonqualified stock options. Options shall be exercisable for such prices, shall expire at such times, and shall have such other terms and conditions as the Plan administrator may determine at the time of grant and as set forth in the award agreement; however, the exercise price must be at least equal to 100% of the fair market value at the date of grant. The option price is payable in cash or other consideration acceptable us.

Stock Appreciation Rights. The Plan administrator may grant stock appreciation rights with such terms and conditions as the administrator may determine at the time of grant and as set forth in the award agreement. The grant price of a stock appreciation right shall be determined by the administrator and shall be specified in the award agreement; however, the grant price must be at least equal to 100% of the fair market

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value of a share on the date of grant. Stock appreciation rights may be exercised upon such terms and conditions as are imposed by the Plan administrator and as set forth in the stock appreciation right award agreement.

Restricted Stock. Restricted stock may be granted in such amounts and subject to the terms and conditions as determined by the Plan administrator at the time of grant and as set forth in the award agreement. The administrator may impose performance goals for restricted stock. The administrator may authorize the payment of dividends on the restricted stock during the restricted period.

Restricted Stock Units. The Plan administrator may grant restricted stock units in such amounts and subject to the terms and conditions as determined by the Plan administrator at the time of grant. Restricted stock units may be awarded independently of or in connection with any other award under the Plan.

Other Awards. The Plan administrator may grant other types of equity-based or equity-related awards not otherwise described by the terms of the Plan, in such amounts and subject to such terms and conditions, as the administrator shall determine. Such awards may be based upon attainment of performance goals established by the administrator and may involve the transfer of actual shares to participants, or payment in cash or otherwise of amounts based on the value of shares.

## **Adjustments Upon Changes in Common Stock**

In the event of any change in the number of shares of common stock outstanding by reason of any stock dividend or split, reverse stock split, recapitalization, merger, consolidation, combination or exchange of shares or similar corporate change, the maximum number of shares of the common stock with respect to which the Plan administrator may grant awards under the Plan and the individual annual limit described in the Plan, shall be appropriately adjusted by the Plan administrator. In the event of any change in the number of shares of the common stock outstanding by reason of any other event or transaction, the Plan administrator may, but need not, make such adjustments in the number and class of shares of the common stock with respect to which awards: (i) may be granted under the Plan and (ii) granted to any one of our employees or a subsidiary during any one calendar year, in each case as the Plan administrator may deem appropriate, unless such adjustment would cause any award that would otherwise qualify as performance based compensation with respect to a 162(m) covered employee (as defined in Section 162 of the Code), to cease to so qualify.

## **Corporate Transactions**

In the event of (i) our dissolution or liquidation, (ii) a sale of all or substantially all of our assets, (iii) a merger or consolidation involving our company in which we are not the surviving corporation; or (iv) a merger or consolidation involving our company in which we are the surviving corporation but the holders of shares of the common stock receive securities of another corporation and/or other property, including cash, the Plan administrator shall, in its absolute discretion, have the power to:

cancel each option and stock appreciation right outstanding immediately prior to the event and make a payment to the grantee equal to the excess of (a) the value, as determined in the absolute discretion of the Plan administrator, of the property received by a holder of common stock as a result of the event over (b) the exercise price otherwise payable in connection with the stock;

cancel each option and stock appreciation right outstanding immediately prior to the event and make a payment to the grantee equal to property received by a holder of common stock as a result of the event; or

provide for the exchange of each option and stock appreciation right outstanding immediately prior to such event (whether or not then exercisable) for an option on or stock appreciation right with respect to, as appropriate, some or all of the property which a holder of the number of shares of the common stock subject to such option or stock appreciation right would have received and, incident thereto, make an equitable adjustment as determined by the Plan administrator in its absolute discretion in the exercise price of the option or stock appreciation right, or the number of shares or amount of property subject to the option or stock appreciation right or, if appropriate, provide for a cash payment to the grantee to whom such option or stock appreciation right was granted in partial consideration for the exchange of the option or stock appreciation right.

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**Amendment and Termination**

Our Board of Directors may amend the Plan at any time, subject to stockholder approval to the extent required by applicable law or regulation or the listing standards of the NYSE MKT or any other market or stock exchange on which the common stock is at the time primarily traded. Additionally, stockholder approval will be specifically required to (i) increase the number of shares available for issuance under the Plan; or (ii) decrease the exercise price of any outstanding option or stock appreciation right granted under the Plan.

Our Board of Directors may terminate the Plan at any time. Unless sooner terminated by our Board of Directors, the Plan will terminate on the close of business on September 27, 2020, ten years from the original effective date.

**Miscellaneous**

The Plan also contains provisions with respect to payment of exercise prices, vesting and expiration of awards, treatment of awards upon the sale of our company, transferability of awards, and tax withholding requirements.

Various other terms, conditions, and limitations apply, as further described in the Plan.

**Federal Income Tax Consequences**

The following is a brief description of the principal federal income tax consequences, as of the date of this Proxy Statement, associated with the grant of awards under the Plan. This summary is based on our understanding of present United States federal income tax law and regulations. The summary does not purport to be complete or applicable to every specific situation. Furthermore, the following discussion does not address foreign, state or local tax consequences.

**Options**

Grant. There is generally no United States federal income tax consequence to the participant solely by reason of the grant of incentive stock options or nonqualified stock options under the Plan, assuming the exercise price of the option is not less than the fair market value of the shares on the date of grant.

Exercise. The exercise of an incentive stock option is not a taxable event for regular federal income tax purposes if certain requirements are satisfied, including the requirement that the participant generally must exercise the incentive stock option no later than three months following the termination of the participant's employment with us. However, such exercise may give rise to alternative minimum tax liability (see Alternative Minimum Tax below). Upon the exercise of a nonqualified stock option, the participant will generally recognize ordinary income in an amount equal to the excess of the fair market value of the shares at the time of exercise over the amount paid by the participant as the exercise price. The ordinary income recognized in connection with the exercise by a participant of a nonqualified stock option will be subject to both wage and employment tax withholding, and we generally will be entitled to a corresponding deduction.

The participant's tax basis in the shares acquired pursuant to the exercise of an option will be the amount paid upon exercise plus, in the case of a nonqualified stock option, the amount of ordinary income, if any, recognized by the participant upon exercise thereof.

Qualifying Disposition. If a participant disposes of shares of our common stock acquired upon exercise of an incentive stock option in a taxable transaction, and such disposition occurs more than two years from the date on

which the option was granted and more than one year after the date on which the shares were transferred to the participant pursuant to the exercise of the incentive stock option, the participant will realize long-term capital gain or loss equal to the difference between the amount realized upon such disposition and the participant's adjusted basis in such shares (generally the option exercise price).

Disqualifying Disposition. If the participant disposes of shares of our common stock acquired upon the exercise of an incentive stock option (other than in certain tax free transactions) within two years from the date on which the incentive stock option was granted or within one year after the transfer of shares to the participant pursuant to the exercise of the incentive stock option, at the time of disposition the participant will generally recognize ordinary income equal to the lesser of: (i) the excess of each such share's fair market value on the date of exercise over the exercise price paid by the participant or (ii) the participant's actual gain. If the total amount realized on a taxable disposition (including return on capital and capital gain) exceeds the

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fair market value on the date of exercise of the shares of our common stock purchased by the participant under the option, the participant will recognize a capital gain in the amount of the excess. If the participant incurs a loss on the disposition (the total amount realized is less than the exercise price paid by the participant), the loss will be a capital loss.

Other Disposition. If a participant disposes of shares of our common stock acquired upon exercise of a nonqualified stock option in a taxable transaction, the participant will recognize capital gain or loss in an amount equal to the difference between the participant's basis (as discussed above) in the shares sold and the total amount realized upon disposition. Any such capital gain or loss (and any capital gain or loss recognized on a disqualifying disposition of shares of our common stock acquired upon exercise of incentive stock options as discussed above) will be short-term or long-term depending on whether the shares of our common stock were held for more than one year from the date such shares were transferred to the participant.

Alternative Minimum Tax. Alternative minimum tax is payable if and to the extent the amount thereof exceeds the amount of the taxpayer's regular tax liability, and any alternative minimum tax paid generally may be credited against future regular tax liability (but not future alternative minimum tax liability).

Alternative minimum tax applies to alternative minimum taxable income. Generally, regular taxable income as adjusted for tax preferences and other items is treated differently under the alternative minimum tax.

For alternative minimum tax purposes, the spread upon exercise of an incentive stock option (but not a nonqualified stock option) will be included in alternative minimum taxable income, and the taxpayer will receive a tax basis equal to the fair market value of the shares of our common stock at such time for subsequent alternative minimum tax purposes. However, if the participant disposes of the incentive stock option shares in the year of exercise, the alternative minimum tax income cannot exceed the gain recognized for regular tax purposes, provided that the disposition meets certain third party requirements for limiting the gain on a disqualifying disposition. If there is a disqualifying disposition in a year other than the year of exercise, the income on the disqualifying disposition is not considered alternative minimum taxable income.

There are no federal income tax consequences to us by reason of the grant of incentive stock options or nonqualified stock options or the exercise of an incentive stock option (other than disqualifying dispositions). At the time the participant recognizes ordinary income from the exercise of a nonqualified stock option, we will be entitled to a federal income tax deduction in the amount of the ordinary income so recognized (as described above), provided that we satisfy our reporting obligations described below. To the extent the participant recognizes ordinary income by reason of a disqualifying disposition of the stock acquired upon exercise of an incentive stock option, and subject to the requirement of reasonableness, the provisions of Section 162(m) of the Code and the satisfaction of a tax reporting obligation, we generally will be entitled to a corresponding deduction in the year in which the disposition occurs. We are required to report to the Internal Revenue Service any ordinary income recognized by any participant by reason of the exercise of a nonqualified stock option. We are required to withhold income and employment taxes (and pay the employer's share of the employment taxes) with respect to ordinary income recognized by the participant upon exercise of nonqualified stock options.

## **Stock Appreciation Rights**

There are generally no tax consequences to the participant or us by reason of the grant of stock appreciation rights. In general, upon exercise of a stock appreciation rights award, the participant will recognize taxable ordinary income equal to the excess of the stock's fair market value on the date of exercise over the stock appreciation rights' base price,

or the amount payable. Generally, with respect to employees, we are required to withhold from regular wages or supplemental wage payments an amount based on the ordinary income recognized. Subject to the requirement of reasonableness, the provisions of Section 162(m) of the Code and the satisfaction of a tax reporting obligation, we generally will be entitled to a business expense deduction equal to the taxable ordinary income realized by the participant.

## **Restricted Stock**

Unless a participant makes a Section 83(b) election, as described below, with respect to restricted stock granted under the Plan, a participant receiving such an award will not recognize U.S. taxable ordinary income

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and we will not be allowed a deduction at the time such award is granted. While an award remains unvested or otherwise subject to a substantial risk of forfeiture, a participant will recognize compensation income equal to the amount of any dividends received and we will be allowed a deduction in a like amount. When an award vests or otherwise ceases to be subject to a substantial risk of forfeiture, the excess of the fair market value of the award on the date of vesting or the cessation of the substantial risk of forfeiture over the amount paid, if any, by the participant for the award will be ordinary income to the participant and will be claimed as a deduction for federal income tax purposes by us. Upon disposition of the shares received, the gain or loss recognized by the participant will be treated as capital gain or loss, and the capital gain or loss will be short-term or long-term depending upon whether the participant held the shares for more than one year following the vesting or cessation of the substantial risk of forfeiture.

However, by filing a Section 83(b) election with the Internal Revenue Service within 30 days after the date of grant, a participant's ordinary income and commencement of holding period and the deduction will be determined as of the date of grant. In such a case, the amount of ordinary income recognized by such a participant and deductible by us will be equal to the excess of the fair market value of the award as of the date of grant over the amount paid, if any, by the participant for the award. If such election is made and a participant thereafter forfeits his or her award, no refund or deduction will be allowed for the amount previously included in such participant's income.

Generally, with respect to employees, we are required to withhold from regular wages or supplemental wage payments an amount based on the ordinary income recognized. Subject to the requirement of reasonableness, the provisions of Section 162(m) of the Code the satisfaction of a tax reporting obligation and any tax withholding condition, we generally will be entitled to a business expense deduction equal to the taxable ordinary income realized by the recipient. Upon disposition of stock, the recipient will recognize a capital gain or loss equal to the difference between the selling price and the sum of the amount paid for such stock, if any, plus any amount recognized as ordinary income upon acquisition (or vesting) of the stock. Such gain or loss will be long- or short-term depending on whether the stock was held for more than one year from the date ordinary income is measured.

Beginning in November, 2010, we have granted 10,815,727 options with a weighted average exercise price of \$1.78 under the Plan.

**New Plan Benefits**

As of the date of this Proxy Statement, we are unable to determine any grants of awards under the Plan that will be made.

**Existing Plan Benefits**

The following table sets forth information with respect to options and other awards previously granted under the Plan.

2010 Stock Incentive Plan

Name and position	Number of shares subject to grant
Jeffrey Riley, Chief Executive Officer, President and Director	3,354,000
Steven A. Shallcross, Chief Financial Officer	1,500,000
Jeffrey J. Kraws, Chairman of the Board of Directors	548,750

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Scott L. Tarriff, Director	473,750
Jeffrey Wolf, Director	473,750
All Current Executive Officers as a Group (three (3) persons)	5,836,800
All Current Non-Executive Directors as a Group (three (3) persons)	1,496,250

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TABLE OF CONTENTS**EQUITY COMPENSATION PLAN INFORMATION**

The following table sets forth information about the securities authorized for issuance under our equity compensation plans for the year ended December 31, 2016.

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options	Weighted-Average Exercise Price of Outstanding Options	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans
Equity compensation plans approved by stockholders:			
2001 Stock Incentive Plan	228,773	\$ 0.09	
2007 Stock Incentive Plan	659,988	\$ 1.81	310,103
2010 Stock Incentive Plan	10,747,466	\$ 1.80	3,222,398
Equity compensation plans not approved by stockholders	N/A	N/A	N/A
Total	11,636,227	\$ 1.77	3,532,501

**OUR BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE FOR THE AMENDMENT TO OUR 2010 STOCK INCENTIVE PLAN TO INCREASE THE NUMBER OF SHARES OF COMMON STOCK AVAILABLE THAT WE WILL HAVE AUTHORITY TO GRANT.**

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# COMPENSATION DISCUSSION AND ANALYSIS

## Overview of Our Compensation Program

### A. Philosophy and Objectives

The Compensation Committee seeks to attract and retain executive talent by offering competitive base salaries, bonuses and long-term incentives. The Compensation Committee's philosophy is to provide a compensation package that attracts and retains superior executive talent and delivers higher rewards for superior performance and consequences for underperformance. It is also the Compensation Committee's practice to provide a balanced mix of cash and equity-based compensation that aligns both the short and long-term interests of our executives with that of our stockholders. Our executive compensation program is based on the following philosophies and objectives:

*Compensation Should Align with Stockholders' Interests* The Compensation Committee believes that executives' interests should be aligned with those of the stockholders. Executives are granted stock options so that their total compensation is tied directly to the same value realized by our stockholders. Executive bonuses are tied directly to the value that we gain from an executive's contribution to our success as a whole.

*Compensation is Competitive* The Compensation Committee seeks to provide a total compensation package that attracts, motivates and retains the executive talent that we need in order to maximize its return to stockholders. To accomplish this objective, executive compensation is reviewed annually to ensure that compensation levels are competitive and reasonable given our level of performance and other comparable companies with which we compete for talent.

*Compensation Motivates and Rewards the Achievement of Goals* Our executive compensation program is designed to appropriately reward both individual and collective performance that meets and exceeds our annual, long-term and strategic goals. To accomplish this objective, a substantial percentage of total compensation is variable, at risk, both through annual incentive compensation and the granting of long-term incentive awards.

### B. Compensation Administration

#### Role of the Compensation Committee

Pursuant to the terms of its charter, the Compensation Committee is responsible for the review of all aspects of our executive compensation program and makes decisions and/or recommendations regarding the compensation of Named Executive Officers. The Compensation Committee's responsibilities include but are not limited to the following:

Establishing on an annual basis the performance goals and objectives for purposes of determining the compensation of our Chief Executive Officer and other senior executive officers.

Evaluating the Chief Executive Officer's and other Named Executive Officer's performance at least annually in light of those goals and objectives, and based upon these evaluations setting the compensation level for those officers.

Reviewing the competitive position of, and making recommendations to the Board of Directors with respect to the cash-based and equity-based compensation plans and our programs relating to compensation and benefits.

Overseeing administration of our stock option plan and incentive compensation plans, making recommendations to the Board of Directors regarding the granting of options and incentives and otherwise assisting the Board of Directors in administering awards under these plans.

Reviewing the financial performance and operations of our major benefit plans.

Additional information regarding the Compensation Committee's responsibilities is set forth in its charter, which is posted on our website at [www.syntheticbiologics.com](http://www.syntheticbiologics.com).

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**Role of the Chief Executive Officer**

Our Chief Executive Officer, Jeffery Riley, makes recommendations to the Compensation Committee regarding the compensation of our other Named Executive Officers. Mr. Riley does not participate in any discussions or processes concerning his own compensation, and participates in a non-voting capacity in discussions or processes of the Compensation Committee concerning the compensation of our Chief Financial Officer and other members of management.

**C. Program Design**

The Compensation Committee uses a simple and straightforward approach in compensating our Named Executive Officers in which base salary, annual incentives and stock options are the principal components. In addition, executives generally participate in the same benefit programs as other full-time employees.

Our executive compensation program is designed to provide executives with a reasonable level of fixed compensation through base salary and benefits, and an opportunity to earn incentive compensation through the annual and long-term incentive programs based on a mix of individual and corporate performance and increases in the value of our stock. Our target pay mix places a significant emphasis on performance based variable compensation. The incentive plans are designed to pay well when performance meets or exceeds expectations and pay little or no incentive if performance is below expectations.

As an executive's level of responsibility increases, the Compensation Committee generally targets a greater portion of the executive's compensation to be contingent upon performance. For example, our Chief Executive Officer and Chief Financial Officer have a higher percentage of compensation at risk (and thus greater upside and downside potential) relative to our other employees. The Compensation Committee believes this is appropriate because the Chief Executive Officer and Chief Financial Officer have the greatest influence on our performance. During 2016, salaries for our Chief Executive Officer and Chief Financial Officer was 31% and 35% of their compensation packages and performance based variable compensation comprised 65% and 61% of the compensation packages. Of the performance based variable compensation there was a heavier emphasis on equity incentive performance based compensation.

**D. Compensation Review Process**

The Compensation Committee annually reviews compensation for our Named Executive Officers. The Compensation Committee considers the executive's role and responsibilities, corporate and individual performance, and industry-wide compensation practices and trends for other companies of similar size. This approach is used to set base salaries, bonuses, stock option award levels and the mix of compensation elements.

When making compensation decisions, the Compensation Committee compares the compensation for our Named Executive Officers with the compensation at several comparable companies. To that end, in 2016 the Compensation Committee utilized a number of resources which included a compensation survey prepared by Top 5 Data Services, Inc. Our Compensation Committee values the opinion of our stockholders. At our 2016 Annual Meeting of Stockholders approximately 67% of the votes were cast in favor of our say-on-pay proposal adopting a resolution approving the compensation paid to our Named Executive Officers as disclosed in our proxy statement for our 2016 Annual Meeting of Stockholders. In addition, at our 2016 Annual Meeting of Stockholders the greatest number of votes were cast in favor of a three (3) year frequency for holding an advisory vote on executive compensation.

## **E. Components of Compensation**

We provide four compensation components to Named Executive Officers:

base salary;  
bonuses based on the achievement of specified goals and objectives;  
long-term incentives; and  
benefits.

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TABLE OF CONTENTS**1. Base Salaries**

We provide our Named Executive Officers a base salary commensurate with their position, responsibilities and experience. In setting the base salary, the Compensation Committee considers the scope and accountability associated with each Named Executive Officer's position and such factors as performance and experience of each Named Executive Officer. We design base pay to provide the essential reward for an employee's work, and are required to be competitive in attracting talent. Once base pay levels are initially determined, increases in base pay may be provided to recognize an employee's specific performance achievements. The base salaries are targeted to be competitive with other similar biotechnology companies. Base salaries for the Named Executive Officers are set by their respective employment contracts and are reviewed annually by the Compensation Committee. Our Chief Executive Officer, Chief Financial Officer and Chief Medical Officer typically make performance assessments of our other employees throughout the year, and provide ongoing feedback to employees, provide resources and maximize individual and team performance levels. Based on the analysis, surveys and other comparative research performed by the Committee, the Committee was able to compare the overall compensation package for the Chief Executive Officer and Chief Financial Officer, including base salary, long-term incentives and bonuses. It was determined that our Chief Executive Officer's salary was at the 50<sup>th</sup> percentile of the compensation of Chief Executive Officers for companies in the survey with similar size market cap and therefore his salary remained the same as in the prior year. It was determined that the Chief Financial Officer's base salary that had remained at \$315,000 since April 2015 would be below the 50<sup>th</sup> percentile for companies in the survey with similar size market cap after taking into account cost of living adjustments since the date of the survey. Therefore, the base salary for our Chief Financial Officer was increased by ten percent (10%) to \$346,500 in December 2016, to keep his salary competitive with those of similarly situated executives in companies with similar size market caps.

Named Executive Officer	Base Salary
Jeffrey Riley, Chief Executive Officer and President	\$ 550,000
Steven A. Shallcross, Chief Financial Officer, Treasurer and Secretary	\$ 346,500

**2. Bonuses**

The Compensation Committee also makes recommendations to the full Board of Directors for determining bonuses. The Compensation Committee also used information from the report and analysis discussed above in determining bonuses as well as its own research of peer company compensation. For the year ended December 31, 2016, the Compensation Committee approved a \$412,000 cash bonus and an option grant to purchase 1,129,000 shares of our common stock for Mr. Riley and a \$236,250 cash bonus and an option grant to purchase 500,000 shares of our common stock for Mr. Shallcross.

The employment agreement with each of Mr. Riley and Mr. Shallcross that was in effect during 2016 provided that each was eligible for a bonus of up to seventy five percent (75%) of his base salary in cash or equity and each of Mr. Riley and Mr. Shallcross received cash bonuses with a value equal to seventy five percent (75%) of their base salary.

The employment agreement that was entered into with Mr. Riley on February 27, 2017 to replace his prior employment agreement, also provides that Mr. Riley is eligible for a bonus of up to seventy five percent (75%) of his base salary in cash or equity. The employment agreement that was entered into with Mr. Shallcross that was amended effective as of May 31, 2017, also provides that Mr. Shallcross is eligible for a bonus of up to seventy five percent (75%) of his base salary in cash or equity. The bonuses are to be rewarded based on whether, in the discretion of the Compensation Committee and the Board of Directors, our company and the Named Executive Officer met certain objectives established by the Compensation Committee or the Board of Directors. The Compensation Committee believes that the granting of a bonus is appropriate to motivate the Named Executive Officers. The Compensation

Committee focuses on individual performance, which enables the Compensation Committee to differentiate among executives and emphasize the link between personal performance and compensation. Although the Compensation Committee does not use any fixed formula in determining bonuses, it does link them to financial objectives of importance to it. The following factors were among the reviewed in determining the bonus: successful execution of a financing raising substantial capital in November 2016; advancement of the clinical development program (reporting topline data from the SYN-010 Phase 2 clinical trial, holding an end of Phase 2 meeting with FDA

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for the SYN-010 Phase 2 clinical trial, reporting topline data from the second Phase 2a clinical trial for SYN-004 and completing enrollment of the Phase 2b proof of concept study for SYN-004) and expansion of existing preclinical programs. Actual levels of achievement were not assigned to any one factor and the performance objectives were looked at in totality.

### **3. Long-Term Incentives**

The Compensation Committee believes that a substantial portion of the Named Executive Officer's compensation should be awarded in equity-based compensation since equity-based compensation is directly linked to the interests of stockholders. The Compensation Committee has elected to grant stock options to the Named Executive Officers and other key employees as the primary long-term incentive vehicle. In making this determination, the Compensation Committee considered a number of factors including: the accounting impact, potential value of stock option grants versus other equity instruments and cash incentives, and the alignment of equity participants with stockholders. The Compensation Committee determined to grant stock options to:

- enhance the link between the creation of stockholder value and executive compensation;
- provide an opportunity for equity ownership;
- act as a retention tool; and
- provide competitive levels of total compensation.

Each of Mr. Riley and Mr. Shallcross were granted options exercisable for 750,000 and 900,000 shares of common stock, respectively, upon hire. Mr. Riley's bonus for the years ended December 31, 2013, 2014 and 2015 included a grant of options to purchase 500,000, 350,000 and 500,000 shares of common stock, respectively. Mr. Shallcross bonus for the years ended December 31, 2015 included a grant of options to purchase 100,000 shares of common stock. In addition, Mr. Riley's and Mr. Shallcross' 2016 bonus included a grant of options to purchase 1,129,000 and 500,000 shares of common stock, respectively. The stock options granted vest in equal monthly installments over a three-year term and are subject to the recipient's continued employment, therefore acting as a significant retention incentive.

The Compensation Committee reviews the performance, potential burn rates and dilution levels to create an option pool that may be awarded to employee participants. Grants to the Named Executive Officers were determined by the Compensation Committee after reviewing market data, including the reports and analysis discussed above and after considering each executive's performance, role and responsibilities.

The Compensation Committee does not seek to time equity grants to take advantage of information, either positive or negative, about our company that has not been publicly disclosed. Option grants are effective on the date the award determination is made by the Compensation Committee and the exercise price of options is the closing market price of our common stock on the business day of the grant or, if the grant is made on a weekend or holiday, on the prior business day.

### **4. Benefits**

Named Executive Officers are eligible to participate in our standard medical, dental, vision, disability insurance, life insurance plans and other health and welfare plans provided to other full time employees.

Each of our Named Executive Officers are entitled to participate in our 401(k) program.

### **Pension Benefits**

We do not currently provide pension arrangements or post-retirement health coverage for our employees, although we may consider such benefits in the future.

### **Retirement Benefits**

Each of our Named Executive Officers are eligible to participate in our 401(k) contributory defined contribution plan.

Pursuant to our 401(k) plan, all eligible employees, including our Named Executive Officers, are provided with a means of saving for their retirement.

### **Nonqualified Deferred Compensation**

We do not provide any nonqualified deferred compensation plans to our employees, although we may consider such benefits in the future.

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## **Conclusion**

Attracting and retaining talented and motivated management and key employees is essential to creating long-term stockholder value. Offering a competitive, performance-based compensation program with a substantial equity component helps to achieve this objective by aligning the interests of the executive officers and other key employees with those of stockholders. We believe that our compensation program met these objectives and that our 2016 compensation program was appropriate in light of the challenges we and our employees face.

## **Risk Analysis of Our Compensation Program**

Our Compensation Committee has reviewed our compensation policies as generally applicable to our employees and believes that our policies do not encourage excessive or inappropriate risk taking and that the level of risk that they do encourage is not reasonably likely to have a material adverse effect on us. As part of its assessment, the Compensation Committee considered, among other factors, the allocation of compensation among base salary and short- and long-term compensation, our approach to establishing company-wide and individual financial, operational and other performance goals.

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## REPORT OF THE COMPENSATION COMMITTEE OF THE BOARD OF DIRECTORS<sup>(2)</sup>

The Compensation Committee has reviewed and discussed with management the Compensation Discussion and Analysis for 2016. Based on the review and the discussions, the Compensation Committee recommended to the Board of Directors (and the Board of Directors approved), that the Compensation Discussion and Analysis be included in our Annual Report on Form 10-K for the year ended December 31, 2016 and this Proxy Statement.

This report is submitted by the Compensation Committee.

Jeffrey J. Kraws (Chairman)  
Scott L. Tarriff  
Jeffrey Wolf

## INFORMATION CONCERNING EXECUTIVE OFFICERS WHO ARE NOT DIRECTORS

Background information about other executive officers who are not nominees for election as a director is set forth below.

**Steven A. Shallcross.** Mr. Shallcross, age 55, joined the Company in June 2015 as Chief Financial Officer, Treasurer and Secretary. Mr. Shallcross brings to the Company operational, financial and international biotech industry experience, as well as an established track record at leading the financial development and strategy for several publicly traded biotech companies. From May 2013 through May 2015, Mr. Shallcross served as Executive Vice President and Chief Financial Officer of Nuo Therapeutics, Inc. (formerly Cytomedix, Inc.). In January 2016, Nuo Therapeutics, Inc. filed a voluntary petition for relief under Chapter 11 of the U.S. Bankruptcy Code in the United States Bankruptcy Court for the District of Delaware. From July 2012 to May 2013, Mr. Shallcross held the offices of Executive Vice President, Chief Financial Officer and Treasurer of Empire Petroleum Partners, LLC, a motor fuel distribution company. From July 2011 to March 2012, Mr. Shallcross was Acting Chief Financial Officer of Senseonics, a privately-held medical device company located in Germantown, MD. From January 2009 to March 2011, he served as Executive Vice President and Chief Financial Officer of Innocoll AG (formerly privately held Innocoll Holdings, Inc.), a global, commercial-stage biopharmaceutical company specializing in the development and commercialization of collagen based products. He also served for four years as the Chief Financial Officer and Treasurer of Vanda Pharmaceuticals, Inc., leading the company through its successful IPO and follow-on offering and previously served as the Senior Vice President and Chief Financial Officer of Middlebrook Pharmaceuticals, Inc. (formerly Advancis Pharmaceutical Corporation). In addition, Mr. Shallcross also served as the Chief Financial Officer of Bering Truck Corporation. He holds an MBA from the University of Chicago's Booth School of Business, a Bachelor of Science degree in Accounting from the University of Illinois, Chicago, and is a Certified Public Accountant in the State of Illinois.

**Joseph A. Sliman.** Dr. Sliman, age 44, joined the Company in January 2014. Dr. Sliman was appointed as the Company's Chief Medical Officer, effective January 17, 2017. From January 13, 2014 until January 17, 2017, Dr. Sliman served as the Company's Senior Vice President-Clinical & Regulatory Affairs. Dr. Sliman has more than 18 years of experience in clinical and public health research, including 10 years directing clinical projects and product

development, in therapeutic areas such as infectious diseases and vaccines. From September 2012 until January 2014, Dr. Sliman served as Senior Medical Director and Head of Patient Safety and Pharmacovigilance at Vanda Pharmaceuticals Inc., where he directed efforts for a New Drug Application for HETLIOZ (tasimelteon), which is indicated for the treatment of Non-24 Hour Disorder in totally blind adults. From December 2008 until August 2012, Dr. Sliman served as Medical Director in Vaccines and Infectious Diseases at MedImmune, Inc., where he was a member of successful Biologics Licensure Application teams. Prior to joining MedImmune, Inc., he served as Associate Medical Director at Dynport Vaccine Company, where he was the clinical director for seasonal and pandemic influenza vaccine trials as well as its Defense Vaccines development program (partnered with Department of Defense Joint Acquisition

The material in this report is not soliciting material, is not deemed filed with the SEC and is not to be incorporated (2) by reference in any filing of the Company under the Securities Act or the Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

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Program). During his service in the United States Navy, Dr. Sliman led the U.S. Pacific Fleet disease surveillance programs, including influenza surveillance, preparedness, and prevention, as well as communicable disease and injury surveillance and prevention and health policy development. Dr. Sliman earned an M.D. from the Uniformed Services University, a Master's Degree in Public Health from the Johns Hopkins University School of Public Health, and a B.S. in Molecular and Cell Biology, with Honors in Biology, from Pennsylvania State University.

**EXECUTIVE COMPENSATION****Summary Compensation Table**

The following table summarizes all compensation awarded to, earned by or paid to Jeffrey Riley and Steven A. Shallcross, our Named Executive Officers, during the fiscal years presented below.

Name and Principal Position	Year	Salary (\$)	Bonus (\$)	Options Awards (\$) <sup>(1)</sup>	All Other Compensation (\$) <sup>(2)</sup>	Total (\$)
Jeffrey Riley	2016	\$ 550,000	\$ 412,500	\$ 722,560	\$ 66,703	\$ 1,751,763
President and Chief Executive Officer <sup>(3)(5)</sup>	2015	\$ 396,875	\$ 288,750	\$ 1,767,490	\$ 97,986	\$ 2,551,101
	2014	\$ 374,068	\$ 275,000	\$ 1,186,500	\$ 20,006	\$ 1,855,574
Steven Shallcross <sup>(4)</sup>	2016	\$ 315,000	\$ 236,250	\$ 320,003	\$ 49,929	\$ 921,182
Chief Financial Officer	2015	\$ 183,750	\$ 137,813	\$ 2,119,855	\$ 11,657	\$ 2,453,075

Amount reflects the grant date fair value of the Named Executive Officer's stock options, calculated in accordance with FASB ASC Topic 718. For a discussion of the assumptions used in calculating these values, see Note 4 to our (1) consolidated financial statements. In November 2016 Mr. Riley was issued an option to purchase 1,129,000 shares of common stock and Mr. Shallcross was issued an option to purchase 500,000 shares of common stock; both awards vest monthly over 36 months.

The all other compensation column is comprised of vacation accrual paid, and the portion of medical, dental and (2) vision premiums paid by us on behalf of our Named Executive Officer. These benefits are offered to all Synthetic Biologics employees who work at least 17.5 hours per week

Mr. Riley was appointed as our President and Chief Executive Officer on February 3, 2012. Mr. Riley's salary was (3) increased in December 2015 to \$550,000.

Mr. Shallcross was appointed as our Chief Financial Officer on June 1, 2015. Mr. Shallcross' annual salary is (4) \$346,500 commencing December 1, 2016.

(5) These bonuses were earned in 2014 and paid in 2015.

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The table below reflects all outstanding equity awards made to each of the Named Executive Officers that are outstanding at December 31, 2016. We currently grant stock-based awards pursuant to our 2010 Stock Incentive Plan (the 2010 Stock Plan ) and have outstanding awards under our 2001 Stock Incentive Plan (the 2001 Stock Plan ) and 2007 Stock Incentive Plan (the 2007 Stock Plan ).

Name	Grant Date	Number of Securities Underlying Unexercised Options Exercisable	Number of Securities Underlying Unexercised Options Unexercisable	Option Exercise Price (\$)	Option Expiration Date
Jeffrey Riley	11/30/16 <sup>(1)</sup>	31,000	1,098,000	\$ 0.80	11/30/23
	12/04/15 <sup>(1)</sup>	167,000	333,000	\$ 2.76	12/04/22
	01/08/15 <sup>(1)</sup>	204,000	146,000	\$ 1.54	01/08/25
	04/17/14 <sup>(1)</sup>	444,000	56,000	\$ 2.52	04/17/24
	02/03/12 <sup>(1)</sup>	750,000		\$ 2.30	02/03/22
	11/17/11 <sup>(2)</sup>	100,000		\$ 0.49	11/17/18
	01/05/11 <sup>(3)</sup>	25,000		\$ 1.50	01/05/18
	12/01/10 <sup>(3)</sup>	8,333		\$ 0.74	12/01/20
	03/03/10 <sup>(3)</sup>	25,000		\$ 0.87	03/03/20
Steven Shallcross	11/30/16 <sup>(1)</sup>	14,000	486,000	\$ 0.80	11/30/23
	12/04/15 <sup>(1)</sup>	33,000	67,000	\$ 2.76	12/04/22
	06/01/15 <sup>(1)</sup>	450,000	450,000	\$ 2.16	06/01/25

(1) Options will vest pro rata, on a monthly basis, over 36 months.

(2) 12,500 options vested immediately on the date of grant; the balance of options vested quarterly.

(3) Options vested immediately on the date of grant.