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SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT  
Pursuant to Section 13 or 15(d)  
of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): September 11, 2017

**SYNTHETIC BIOLOGICS, INC.**  
(Exact name of registrant as specified in its charter)

Nevada  
(State or other jurisdiction of  
incorporation)

001-12584  
(Commission File No.)

13-3808303  
(I.R.S. Employer Identification No.)

**9605 Medical Center Drive, Suite 270**  
**Rockville, MD 20850**  
(Address of principal executive offices and zip code)

Registrant's telephone number, including area code: (301) 417-4364

N/A  
(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by checkmark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

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**Item 1.01. Entry into Material Definitive Agreement.**

*Purchase Agreement and Series A Preferred Stock*

On September 11, 2017, Synthetic Biologics, Inc. (the “**Company**”) entered into a share purchase agreement (the “**Purchase Agreement**”) with MSD Credit Opportunity Master Fund, L.P., an accredited investor (the “**Investor**”), pursuant to which the Company offered and sold in a private placement 120,000 shares of its Series A Convertible Preferred Stock, par value \$0.001 per share (the “**Series A Preferred Stock**”) for an aggregate purchase price of \$12 million, or \$100 per share. The Company announced this transaction in a press release issued on September 12, 2017 which is attached hereto as Exhibit 99.1.

The Series A Preferred Stock will rank senior to the shares of the Company’s common stock, par value \$0.001 per share (the “**Common Stock**”), and any other class or series of stock issued by the Company with respect to dividend rights, redemption rights and rights on the distribution of assets on any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Company. Holders of Series A Preferred Stock will be entitled to a cumulative dividend at the rate of 2.0% per annum, payable quarterly in arrears, as set forth in the Certificate of Designation of Series A Convertible Preferred Stock classifying the Series A Preferred Stock, a form of which is attached as an annex to the Purchase Agreement (the “**Certificate of Designation**”). The Series A Preferred Stock will be convertible at the option of the holders at any time into shares of Common Stock at an initial conversion price of \$0.54 per share, subject to certain customary anti-dilution adjustments. Any conversion of Series A Preferred Stock may be settled by the Company in shares of Common Stock only.

The holder’s ability to convert the Series A Preferred Stock into Common Stock is subject to (i) a 19.99% blocker provision to comply with NYSE American Listing Rules, (ii) if so elected by the Investor, a 4.99% blocker provision that will prohibit beneficial ownership of more than 4.99% of the outstanding shares of the Company’s Common Stock or voting power at any time, and (iii) applicable regulatory restrictions.

In the event of any liquidation, dissolution or winding-up of the Company, holders of the Series A Preferred Stock shall be entitled to a preference on liquidation equal to the greater of (i) an amount per share equal to the stated value plus any accrued and unpaid dividends on such share of Series A Preferred Stock (the “**Accreted Value**”), and (ii) the amount such holders would receive in such liquidation if they converted their shares of Series A Preferred Stock (based on the Accreted Value and without regard to any conversion limitation) into shares of the Common Stock immediately prior to any such liquidation, dissolution or winding-up (the greater of (i) and (ii), is referred to as the “**Liquidation Value**”).

Except as otherwise required by law, the holders of Series A Preferred Stock shall have no voting rights, other than customary protections against adverse amendments and issuance of *pari passu* or senior preferred stock. Upon certain change of control events involving the Company, the Company will be required to repurchase all of the Series A Preferred Stock at a redemption price equal to the greater of (x) the Accreted Value and (y) the amount that would be payable in the Change of Control in respect of Common Stock issuable upon conversion of such share of Series A Convertible Preferred Stock if all outstanding shares of Series A Convertible Preferred Stock were converted into Common Stock immediately prior to the Change of Control.

On or at any time after (i) the VWAP (as defined in the Certificate of Designation) for at least twenty (20) trading days in any thirty (30) trading day period is greater than \$2.00, subject to adjustment in the case of stock split, stock dividends or the like the Company shall have the right, after providing notice not less than 6 months prior to the redemption date, to redeem, in whole or in part, on a pro rata basis from all holders thereof based on the number of shares of Series A Convertible Preferred Stock then held, the outstanding Series A Convertible Preferred Stock, for cash, at a redemption price per share of Series A Convertible Preferred Stock of \$225.00, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A Convertible Preferred Stock or (ii) the five year anniversary of the issue date, the Company shall have the right to redeem, in whole or in part, on a pro rata basis from all holders thereof based on the number of shares of Series A Convertible Preferred Stock then held, the outstanding Series A Convertible Preferred Stock, for cash, at a redemption price per share equal to the Liquidation Value.

The foregoing description of the terms of the Series A Preferred Stock, the Purchase Agreement and the transactions contemplated thereby does not purport to be complete and is subject to, and qualified in its entirety by, the full text of the Purchase Agreement and the annexes thereto and the Certificate of Designation, which are attached hereto as Exhibits 10.1 and 3.1, respectively, and are incorporated herein by reference.

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The Purchase Agreement has been included as an exhibit to this Current Report on Form 8-K to provide investors and security holders with information regarding its terms. It is not intended to provide any other financial information about the parties thereto or their respective subsidiaries or affiliates. The representations, warranties and covenants contained in the Purchase Agreement are made only for purposes of that agreement and as of specific dates; are solely for the benefit of the parties thereto; may be subject to limitations agreed upon by such parties, including being qualified by confidential disclosures made for the purposes of allocating contractual risk between the parties thereto instead of establishing these matters as facts; and may be subject to standards of materiality applicable to the contracting parties that differ from those applicable to investors. Investors should not rely on the representations, warranties and covenants or any description thereof as characterizations of the actual state of facts or condition of the parties to the Purchase Agreement or any of their respective subsidiaries or affiliates. Moreover, information concerning the subject matter of the representations, warranties and covenants may change after the dates of the Purchase Agreement, which subsequent information may or may not be fully reflected in public disclosures by the parties thereto.

#### *Registration Rights Agreement*

Pursuant to the terms of the Purchase Agreement, the Company entered into a registration rights agreement with the Investor of the Series A Preferred Stock (the “**Registration Rights Agreement**”). Pursuant to the terms of the Registration Rights Agreement, the Company agreed to file a registration statement covering resales of the shares of Common Stock issuable upon conversion of the Series A Preferred Stock with the Securities and Exchange Commission (the “**SEC**”) within 60 days following receipt of a request from the Investor at any time (as long as it beneficially owns at least ten percent (10%) of the Company’s Common Stock then outstanding) or is otherwise deemed an affiliate of the Company, and to use reasonable best efforts to have the registration statement declared effective within 120 days following receipt of such request.

The Company has agreed to pay certain penalties if the registration statement is not declared effective by the SEC on or before the required deadline. After that deadline and until such time as the registration statement is declared effective (or until the Company is no longer required to cause the registration statement to be declared effective), the Company will be required to pay additional liquidated damages.

The foregoing description of the terms of the Registration Rights Agreement and the transactions contemplated thereby does not purport to be complete and is subject to, and qualified in its entirety by, the full text of the Registration Rights Agreement, which is attached hereto as Exhibit 4.1, and is incorporated herein by reference

#### **Item 2.03. Creation of a Direct Financial Obligation or an Obligation under an Off-Balance Sheet Arrangement of a Registrant.**

The disclosure provided under Item 1.01 of this Current Report on Form 8-K is hereby incorporated by reference into this Item 2.03.

#### **Item 3.02. Unregistered Sales of Equity Securities.**

The disclosure provided under Item 1.01 of this Current Report on Form 8-K is hereby incorporated by reference into this Item 2.03.

On September 11, 2017, the Company issued 120,000 shares of its Series A Convertible Preferred Stock to the Investor in accordance with the terms of the Purchase Agreement. The offer and issuance of the Series A Convertible Preferred Stock and the shares of Common Stock issuable upon conversion of the Series A Convertible Preferred Stock have not been registered under the Securities Act of 1933, as amended (the “**Securities Act**”), and therefore may not be offered or sold in the United States absent registration or an applicable exemption from registration requirements. For this issuance, the Company is relying on the exemption from federal registration under Section 4(a)(2) of the Securities Act based on the Company’s belief that the offer and sale of such securities does not involve a public offering as the investor is an “accredited investor” as defined under Section 501 promulgated under the Securities Act.

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**Item 3.03. Material Modification to Rights of Security Holders.**

On September 11, 2017, the Company filed the Certificate of Designation with the Secretary of State of the State of Nevada establishing the Series A Convertible Preferred Stock which has a stated value of \$100.00 and entitles each holder of Series A Convertible Preferred Stock to a cumulative dividend at the rate of 2.0% per annum, payable quarterly in arrears.

The Series A Preferred Stock ranks senior to the shares of the Common Stock and any other class or series of stock issued by the Company with respect to dividend rights, redemption rights and rights on the distribution of assets on any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Company.

The foregoing description of the terms of the Certificate of Designation and the transactions contemplated thereby does not purport to be complete and is subject to, and qualified in its entirety by, the full text of the Certificate of Designation, which is attached hereto as Exhibit 3.1, and is incorporated herein by reference and the disclosure provided under Item 1.01 of this Current Report on Form 8-K which is hereby incorporated by reference into this Item 3.03.

**Item 5.03. Amendments to Articles of Incorporation or Bylaws; Change in Fiscal Year.**

The disclosure provided under Item 1.01 of this Current Report on Form 8-K is hereby incorporated by reference into this Item 5.03.

On September 11, 2017, the Company filed with the Secretary of State of the State of Nevada the Certificate of Designation attached hereto as Exhibit 3.1 and incorporated herein by reference. The Certificate of Designation establishes and designates the Series A Convertible Preferred Stock and the rights, preferences, privileges and limitations thereof.

**Item 9.01. Financial Statements and Exhibits.**

(d) Exhibits.

<b>Exhibit No.</b>	<b>Description</b>
<a href="#"><u>3.1</u></a>	<a href="#"><u>Certificate of Designation of Series A Convertible Preferred Stock</u></a>
<a href="#"><u>4.1</u></a>	<a href="#"><u>Registration Rights Agreement, dated September 11, 2017, by and between Synthetic Biologics, Inc. and the holders of the Series A Convertible Preferred Stock</u></a>
<a href="#"><u>10.1</u></a>	<a href="#"><u>Share Purchase Agreement, dated September 11, 2017, by and between Synthetic Biologics, Inc. and the Purchasers named therein</u></a>
<a href="#"><u>99.1</u></a>	<a href="#"><u>Press Release of Synthetic Biologics, Inc., dated September 12, 2017</u></a>

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**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

SYNTHETIC BIOLOGICS, INC.

Date: September 12, 2017

By: /s/ Steven A. Shallcross

Name: Steven A. Shallcross

Title: Chief Financial Officer

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## EXHIBIT INDEX

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BARBARA K. CEGAVSKE
Secretary of State
202 North Carson Street
Carson City, Nevada 89701-4201
(775) 684-5708
Website: www.nvsos.gov

Certificate of Designation
(PURSUANT TO NRS 78.1955)

USE BLACK INK ONLY—DO NOT HIGHLIGHT
IS FOR OFFICE USE ONLY

ABOVE SPACE

Certificate of Designation For

Nevada Profit Corporations

(Pursuant to NRS 78.1955)

1. Name of corporation:

Synthetic Biologics, Inc.

2. By resolution of the board of directors pursuant to a provision in the articles of incorporation this certificate establishes the following regarding the voting powers, designations, preferences, limitations, restrictions and relative rights of the following class or series of stock.

The undersigned, a duly authorized officer of Synthetic Biologics, Inc., a corporation organized and existing under the laws of the State of Nevada (the "Company"), in accordance with the Company's Articles of Incorporation (the "Articles") and the provisions of Sections 78.195 and 78.1955 of the Nevada Revised Statutes (the "NRS"), does hereby certify that the following resolution was duly approved and adopted by the Board of Directors of the Company (the "Board"):

See Exhibit A for the remainder of the resolution.

3. Effective date of filing: (optional)

(must not be later than 90 days after the certificate is filed)

4. Signature: (required)

X /s/ Jeffrey Riley

Signature of Officer

Filing Fee: \$175.00

IMPORTANT: Failure to include any of the above information and submit with the proper fees may cause this filing to be rejected.

This form must be accompanied by appropriate fees.

Nevada Secretary of State Stock Designation

EXHIBIT A  
CERTIFICATE OF DESIGNATION  
OF  
SERIES A CONVERTIBLE PREFERRED STOCK  
OF  
SYNTHETIC BIOLOGICS, INC.  
PURSUANT TO SECTION 78.195 OF THE  
NEVADA REVISED STATUTE

WHEREAS, the Board of Directors of Synthetic Biologics, Inc. (the "*Corporation*") is authorized to provide for the issuance of the shares of preferred stock in one or more series and, by filing a certificate pursuant to the applicable law of the State of Nevada, to establish from time to time the number of shares to be included in each such series, and to fix the designations, powers, preferences and the relative, participating, optional or other special rights, if any, and the qualifications, limitations or restrictions thereof, of the shares of each such series; and

WHEREAS, the Board of Directors desires, pursuant to its authority as aforesaid, to designate a new series of preferred stock, set the number of shares constituting such series and fix the rights, preferences, privileges and restrictions of such series.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors hereby designates a new series of preferred stock and the number of shares constituting such series and fixes the rights, preferences, powers and restrictions relating to such series as follows:

1. Designation and Number. The shares of such series shall be designated as the Series A Convertible Preferred Stock with par value \$0.001 per share (the "*Series A Convertible Preferred Stock*"). The number of authorized shares initially constituting the Series A Convertible Preferred Stock shall be One Hundred Twenty Thousand (120,000).

2. Rank. The Series A Convertible Preferred shall rank senior to the Common Stock, and any other class or series of stock issued by the Corporation with respect to payment of dividends, the consummation of any redemption and upon liquidation, dissolution or winding up of the Corporation.

3. Dividends.

(a) From and after the Issue Date, cumulative dividends shall accrue on the Accreted Value of each share of Series A Convertible Preferred Stock at the Annual Rate. Dividends on each share of Series A Convertible Preferred Stock shall be cumulative, shall accrue daily from and after the Issue Date, shall be payable in cash and only when declared by the Board of Directors and if the Board of Directors of the Corporation elects not to declare and pay the dividends in any given quarter then such dividends shall compound on a quarterly basis on each Quarterly Dividend Date whether or not earned or declared, and whether or not there are earnings or profits, surplus or other funds or assets of the Corporation legally available for the payment of dividends. All such dividends not paid in cash shall compound and be added to the Accreted Value on each Quarterly Dividend Date, as provided in the definition of "Accreted Value" in Section 10 hereof. Holders of shares of Series A Convertible Preferred Stock shall be entitled to receive the dividends provided for in this Section 3(a) in preference to and in priority over any dividends upon the Common Stock or any other class or series of stock issued by the Corporation.

(b) In the event that the Board of Directors shall declare a dividend or other distribution payable upon the then outstanding shares of Common Stock (other than a stock dividend on the Common Stock payable solely in the form of additional shares of Common Stock to the extent that the applicable anti-dilution adjustment under Section 6(e) below shall be made in connection therewith), the holders of the Series A Convertible Preferred Stock shall be entitled, in addition to any cumulative dividends to which the Series A Convertible Preferred Stock may be entitled under Section 3(a) above, to receive the amount of dividends per share of Series A Convertible Preferred Stock that would be payable on the number of shares of the Common Stock into which each share of such Series A Convertible Preferred Stock held by each holder could be converted pursuant to the provisions of Section 6 below (without regard as to whether sufficient shares of Common Stock are available out of the Corporation's authorized but unissued stock for the purpose of effecting the conversion of the Series A Convertible Preferred Stock and without regard to any limitation on conversion in accordance with Section 6(i) below), such number to be determined as of the record date for the determination of holders of Common Stock entitled to receive such dividend or other distribution. Any dividends or other distributions payable to the holders of the Series A Convertible Preferred Stock pursuant to this Section 3(b) shall be payable on the same payment date as the payment date for the dividend or other distribution on the Common Stock established by the Board of Directors.

(c) The Board of Directors may fix a record date for the determination of holders of shares of Common Stock or the Series A Convertible Preferred Stock entitled to receive payment of a dividend declared thereon, which record date shall be no more than 60 days and no less than 10 days prior to the date fixed for the payment thereof.

(d) Dividends shall be calculated on the basis of the time elapsed from but excluding the last preceding Quarterly Dividend Date (or the Issue Date in respect to the first dividend payable on September 30, 2017) to and including the Quarterly Dividend Date or any final distribution date relating to conversion or redemption or to a dissolution, liquidation or winding up of the Corporation. Dividends payable on the shares of the Series A Convertible Preferred for any period of less than a full calendar year shall be prorated for the partial year on the basis of a 365-day year.

#### 4. Liquidation, Dissolution or Winding Up; Certain Mergers, Consolidations and Asset Sales.

(a) Payments to Holders of Series A Convertible Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation (each, a "**Liquidation Event**"), the holders of shares of Series A Convertible Preferred Stock shall be entitled to be paid, with respect to each share of Series A Convertible Preferred Stock then outstanding held by the holder, out of the assets of the Corporation available for distribution to its stockholders, on a preferred basis prior and in preference to any distribution to the holders of any Common Stock or any other series or class of stock of the Corporation, an amount in cash per share of Series A Convertible Preferred Stock equal to the greater of (i) the Accreted Value plus an amount equal to all accrued or declared and unpaid dividends on the Series A Convertible Preferred Stock that have not previously been added to the Accrued Value or (ii) such amount per share as would have been payable in respect of the shares of Common Stock into which such share of Series A Convertible Preferred Stock is then convertible, assuming all outstanding shares of Series A Convertible Preferred Stock were converted into Common Stock immediately prior to such Liquidation Event in accordance with Section 6 below (without regard as to whether sufficient shares of Common Stock are available out of the Corporation's authorized but unissued stock for the purpose of effecting the conversion of the Series A Convertible Preferred Stock and without regard to any limitation on conversion in accordance with Section 6(i) below) (the amount payable pursuant to this sentence is hereinafter referred to as the "**Liquidation Value**"). If upon any such Liquidation Event, the assets of the Corporation available for distribution to the Corporation's stockholders shall be insufficient to pay the holders of shares of the Series A Convertible Preferred Stock the full amount to which they shall be entitled pursuant to the preceding sentence of this Section 4(a), the holders of shares of Series A Convertible Preferred Stock shall share ratably in any distribution of the assets available for distribution and funds of the Corporation in proportion to the respective amounts which would otherwise be payable in respect of such shares of Series A Convertible Preferred Stock held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full. After full payment of the Liquidation Value as set forth above, the shares of Series A Convertible Preferred Stock shall no longer be deemed to be outstanding and the holders thereof shall have no further rights as holders of Series A Convertible Preferred Stock.

(b) Payments to Holders of Common Stock. In the event of any Liquidation Event, after the payment of all preferential amounts required to be paid to the holders of shares of Series A Convertible Preferred Stock, the remaining assets and funds of the Corporation available for distribution to its stockholders shall be distributed among the holders of securities junior to the Series A Convertible Preferred Stock in accordance with their respective priorities.

5. Voting. Except as otherwise provided in this Section 5 or as otherwise required by law, the Series A Convertible Preferred Stock shall have no voting rights. However, as long as any shares of Series A Convertible Preferred Stock are outstanding, the Corporation shall not, without the affirmative vote of the Required Holders, (i) alter or change adversely the powers, preferences or rights given to the Series A Convertible Preferred Stock or alter or amend this Certificate of Designation; (ii) amend its Articles of Incorporation or bylaws in any manner that adversely affects any powers, preferences or rights of the Series A Convertible Preferred Stock; (iii) authorize or create any series or class of stock ranking as to redemption, distribution of assets upon a Liquidation Event or dividends senior to, or otherwise pari passu with, the Series A Convertible Preferred Stock; (iv) declare or make any dividends other than dividend payments on the Series A Convertible Preferred Stock or other distributions payable solely in Common Stock; (v) authorize any increase in the number of shares of Series A Convertible Preferred Stock or issue any additional shares of Series A Convertible Preferred Stock or (vi) enter into any agreement with respect to any of the foregoing.

6. Conversion. The holders of the Series A Convertible Preferred Stock shall have conversion rights as follows (the “*Conversion Rights*”):

(a) Right to Convert. Each share of Series A Convertible Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing (i) the sum of the Accreted Value plus an amount equal to all accrued or declared and unpaid dividends on the Series A Convertible Preferred Stock that have not previously been added to the Accreted Value by (ii) the Conversion Price (as defined below) in effect at the time of conversion. The “*Conversion Price*” shall initially be equal to \$0.54 per share and shall be subject to adjustment as provided in Sections 6(d)-(g) below.

In the event of a notice of redemption of any shares of Series A Convertible Preferred Stock pursuant to Section 7 or 8 hereof, the Conversion Rights of the shares designated for redemption shall terminate at the close of business on the date fixed for redemption, unless the redemption price is not paid on such redemption date, in which case the Conversion Rights for such shares shall continue until such price is paid in full. Upon delivery to the Corporation of a Notice of Conversion (as defined below) and unless the Notice of Conversion is revoked or rescinded, the Corporation’s right of redemption pursuant to Section 8 hereof shall terminate with respect to the number of shares of Series A Convertible Preferred Stock identified for conversion in such Notice of Conversion.

(b) Fractional Shares. No fractional shares of Common Stock shall be issued upon conversion of the Series A Convertible Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the fair market value of a share of Common Stock, which shall be the last reported closing sale price of a share of Common Stock on the Conversion Date if the Common Stock is then listed and trading on a Trading Market or, if the Common Stock is not then so listed and trading, as determined in good faith by the Board of Directors. Whether or not fractional shares would be issuable upon such conversion shall be determined on the basis of the total number of shares of Convertible Preferred Stock the holder is at the time converting into Common Stock and the aggregate number of shares of Common Stock issuable upon such conversion.

(c) Mechanics of Conversion.

(i) Holders of Series A Convertible Preferred Stock shall effect conversions by providing the Corporation with a written notice of conversion (a “*Notice of Conversion*”) on the Trading Day on which such holder wishes to effect such conversion (the “*Conversion Date*”). Each Notice of Conversion shall specify the number of shares of Series A Convertible Preferred Stock to be converted, the applicable Conversion Price and the number of shares of Common Stock to be issued. The shares of Common Stock shall be deemed to have been issued, and the holder or any other person so designated to be deemed to have become a holder of record of such shares for all purposes, as of the date of delivery to the Corporation of the Notice of Conversion. To effect conversions of shares of Series A Convertible Preferred Stock, a holder shall not be required to surrender the certificate(s) representing the shares of Series A Convertible Preferred Stock to the Corporation unless all of the shares of Series A Convertible Preferred Stock represented thereby are so converted, in which case such holder shall deliver the certificate representing such shares of Series A Convertible Preferred Stock promptly following the Conversion Date at issue. Conversions of less than the total amount of shares of Series A Convertible Preferred Stock represented by a certificate held by the holder will have the effect of lowering the outstanding number of Series A Convertible Preferred Stock held by such holder by an amount equal to the number so converted, as if the original stock certificate(s) were cancelled and one or more new stock certificates evidencing the new number of shares of Series A Convertible Preferred Stock were issued; provided, however, that in such cases the holder may request that the Corporation deliver to the holder a certificate representing such non-converted shares of Series A Convertible Preferred Stock; provided, further, that the failure of the Corporation to deliver such new certificate shall not affect the rights of the holder to submit a further Notice of Conversion with respect to such Series A Convertible Preferred Stock and, in any such case, the holder shall be deemed to have submitted the original of such new certificate at the time that it submits such further Notice of Conversion. In the case of a dispute between the Corporation and a holder as to the calculation of the Conversion Price, the total number of shares of Series A Convertible Preferred Stock outstanding or the number of shares of Common Stock issuable upon a conversion, the Corporation shall issue to such holder the number of shares of Common Stock that are not disputed within the time periods specified below and shall submit the disputed calculations to a certified public accounting firm of national reputation within two (2) Trading Days following the Corporation’s receipt of such holder’s Notice of Conversion. The Corporation shall cause such accountant to calculate the Conversion Price, the total number of shares of Series A Convertible Preferred Stock outstanding or the number of shares of Common Stock issuable upon conversion as provided herein and to notify the Corporation and such holder of the results in writing no later than two (2) Trading Days following the day on which such accountant received the disputed calculations (the “*Dispute Procedure*”). Such accountant’s calculation shall be deemed conclusive absent manifest error. The fees of any such accountant shall be borne by the party whose calculations were most at variance with those of such accountant.

(ii) Not later than three (3) Trading Days after each Conversion Date (the “*Share Delivery Date*”), the Corporation shall deliver, or cause to be delivered, to the converting holder the number of shares of Common Stock being acquired upon the conversion of the Series A Convertible Preferred Stock. If, in the case of any Notice of Conversion, such shares of Common Stock are not delivered to or as directed by the applicable holder by the Share Delivery Date, the holder shall be entitled to elect by written notice to the Corporation at any time on or before its receipt of such shares of Common Stock, to rescind such conversion, in which event the Corporation shall promptly return to the holder any original Series A Convertible Preferred Stock certificate delivered to the Corporation and the holder shall promptly return to the Corporation the shares of Common Stock issued to such holder pursuant to the rescinded Notice of Conversion.

(iii) The Corporation shall at all times when the Series A Convertible Preferred Stock shall be outstanding, reserve and keep available out of its authorized but unissued capital stock, free from preemptive rights, for the purpose of effecting the conversion of the Series A Convertible Preferred Stock, such number of its duly authorized shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of Series A Convertible Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of Series A Convertible Preferred Stock, the Corporation shall take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to the Articles of Incorporation. Before taking any action which would cause an adjustment reducing the Conversion Price below the then par value of the shares of Common Stock issuable upon conversion of the Series A Convertible Preferred Stock, the Corporation shall take commercially reasonable efforts to effect any corporate action which may, in the opinion of its counsel, be necessary in order that the Corporation may validly and legally issue fully paid and nonassessable shares of Common Stock at such adjusted Conversion Price, as applicable.

(iv) All shares of Series A Convertible Preferred Stock which shall have been surrendered for conversion as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares, including the rights, if any, to receive notices and to vote, shall immediately cease and terminate on the Conversion Date at the time of conversion, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor, to receive payment in lieu of any fraction of a share otherwise issuable upon such conversion and payment of any dividends declared but unpaid on the Series A Convertible Preferred Stock. Any shares of Series A Convertible Preferred Stock so converted shall be retired and canceled and return to the status of and constitute authorized but unissued shares of Preferred Stock, without classification as to series until such shares are once more classified as a particular series by the Board of Directors pursuant to the provisions of the Articles of Incorporation.

(v) The Corporation shall pay any and all issue and other similar taxes that may be payable in respect of any issuance or delivery of shares of Common Stock upon conversion of shares of Series A Convertible Preferred Stock pursuant to this Section 6. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of shares of Common Stock in a name other than that in which the shares of Series A Convertible Preferred Stock so converted were registered, and no such issuance or delivery shall be made unless and until the Person requesting such issuance has paid to the Corporation the amount of any such tax or has established, to the reasonable satisfaction of the Corporation, that such tax has been paid.

(d) Adjustment for Stock Splits and Combinations. If the Corporation shall at any time or from time to time on or after the Issue Date effect a subdivision of the outstanding shares of Common Stock, the Conversion Price in effect immediately before that subdivision shall be proportionately decreased so that the number of shares of Common Stock issuable on conversion of Series A Convertible Preferred Stock shall be increased in proportion to such increase in the aggregate number of shares of Common Stock outstanding. If the Corporation shall at any time or from time to time on or after the Issue Date combine the outstanding shares of Common Stock, the Conversion Price in effect immediately before the combination shall be proportionately increased so that the number of shares of Common Stock issuable on conversion of each share of Series A Convertible Preferred Stock shall be decreased in proportion to such decrease in the aggregate number of shares of Common Stock outstanding. Any adjustment under this paragraph shall become effective at the close of business on the date the subdivision or combination becomes effective.

(e) Adjustment for Certain Dividends and Distributions. If the Corporation at any time or from time to time on or after the Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in additional shares of Common Stock, the Conversion Price in effect immediately before such event shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Conversion Price then in effect by a fraction,

(1) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and

(2) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution;

provided, however, if such record date shall have been fixed and such dividend shall not be fully paid or if such distribution shall not be fully made on the date fixed therefor, the Conversion Price shall be recomputed accordingly as of the close of business on such record date, and thereafter the Conversion Price shall be adjusted pursuant to this Section 6(e) as of the time of actual payment of such dividends or distributions; provided further, however, that no such adjustment shall be made if the holders of Series A Convertible Preferred Stock simultaneously receive a dividend or other distribution of shares of Series A Convertible Preferred Stock which are convertible, as of the date of such event, into such number of shares of Common Stock as is equal to the number of additional shares of Common Stock being issued with respect to each share of Common Stock in such dividend or distribution.

(f) Adjustment for Reclassification, Exchange or Substitution. If, at any time on or after the Issue Date, the Common Stock shall be changed into the same or a different number of shares of any class or classes of stock, whether by capital reorganization, reclassification, or otherwise (other than a subdivision or combination of shares or stock dividend provided for above, or a reorganization, merger, consolidation, or sale of assets provided for below), the holders of the Series A Convertible Preferred Stock shall have the right thereafter to convert such shares into the kind and amount of shares of stock and other securities and property receivable upon such reorganization, reclassification, or other change, as would be received by holders of the number of shares of Common Stock into which such shares of the Series A Convertible Preferred Stock might have been converted immediately prior to such reorganization, reclassification, or change.

(g) Adjustment for Merger or Reorganization, etc. In case of any consolidation or merger of the Corporation with or into another corporation or the sale of all or substantially all of the assets of the Corporation to another corporation at any time on or after the Issue Date other than a transaction covered by paragraphs (d)(e) or (f) of this Section 6 (each, a “*Transaction*”), then following such Transaction, each share of Series A Convertible Preferred Stock shall thereafter be convertible (or shall be converted into a security which shall be convertible) into the kind and amount of shares of stock or other securities or property to which a holder of the number of shares of Common Stock of the Corporation issuable upon conversion of such share immediately prior to such Transaction would have been entitled upon consummation of such Transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board of Directors) shall be made in the application of the provisions in this Section 6(g) with respect to the rights and interest thereafter of the holders of Series A Convertible Preferred Stock, to the end that the provisions set forth in this Section 6(g) (including provisions with respect to changes in and other adjustments of the Conversion Price applicable to such series) shall thereafter be applicable, as nearly as reasonably may be, in relation to any shares of stock or other property thereafter issuable upon the conversion of the Series A Convertible Preferred Stock. Notwithstanding anything contained herein to the contrary, the Corporation will not effect any Transaction unless, prior to the consummation thereof, the surviving person, if other than the Corporation, shall agree to assume the obligation to deliver to the holders of Series A Convertible Preferred Stock such shares of stock or other securities or property to which, in accordance with the foregoing provisions, such holders are entitled.

(h) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Price pursuant to this Section 6, the Corporation at its expense shall, as promptly as reasonably practicable but in any event not later than 10 days thereafter, compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of Series A Convertible Preferred Stock a certificate setting forth such adjustment or readjustment (including the kind and amount of securities, cash or other property into which the Series A Convertible Preferred Stock is convertible) and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, as promptly as reasonably practicable after the written request at any time of any holder of Series A Convertible Preferred Stock (but in any event not later than 10 days thereafter), furnish or cause to be furnished to such holder a certificate setting forth (i) the Conversion Price then in effect, and (ii) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the conversion of Series A Convertible Preferred Stock.

(i) Beneficial Ownership Limitation. Notwithstanding anything to the contrary contained herein, no holder of Series A Convertible Preferred Stock shall be entitled to receive shares of Common Stock or other securities of the Corporation (together with Common Stock, “**Equity Interests**”) upon conversion of Series A Convertible Preferred Stock to the extent (but only to the extent) that such exercise or receipt would cause such holder’s Holder Group to become, directly or indirectly, a “beneficial owner” (within the meaning of Section 13(d) of the Exchange Act of a number of Equity Interests of a class that is registered under the Exchange Act which exceeds the Maximum Percentage (as defined below) of the Equity Interests of such class that are outstanding at such time. This limitation on beneficial ownership (a) may be increased, decreased or terminated with respect to any holder of Series A Convertible Preferred Stock, in such holder’s sole discretion, upon 61 days’ written notice to the Corporation by such holder, provided, however, that in no event shall any such holder increase the Maximum Percentage to a percentage in excess of 19.99% *unless* (x) the Corporation obtains the approval of its stockholders as required by the applicable rules of the relevant Trading Market for issuances of shares of Common Stock in excess of such amount or (y) the Corporation is not subject to rules of the relevant Trading Market limiting issuances of shares of Common Stock in excess of such amount, and (b) shall terminate automatically on the date that a notice of redemption is delivered to such holder. Any purported delivery of Equity Interests in connection with the conversion of Series A Convertible Preferred Stock prior to the termination of this restriction in accordance herewith shall be void and have no effect to the extent (but only to the extent) that such delivery would result in a Holder Group becoming the beneficial owner of more than the Maximum Percentage of the Equity Interests of a class that is registered under the Exchange Act that is outstanding at such time. If any delivery of Equity Interests owed to a holder following a conversion of Series A Convertible Preferred Stock is not made, in whole or in part, as a result of this limitation, the Corporation’s obligation to make such delivery shall not be extinguished and the Corporation shall deliver such Equity Interests as promptly as practicable after such holder gives notice to the Corporation that such delivery would not result in such limitation being triggered or upon termination of the restriction in accordance with the terms hereof. For purposes of this Section 6(i), (i) unless modified by a holder pursuant to the second sentence of this Section 6(i), the term “**Maximum Percentage**” shall mean 4.99%; provided, that if at any time after the date hereof such holder’s Holder Group beneficially owns in excess of 4.99% of any class of Equity Interests in the Corporation that is registered under the Exchange Act (excluding any Equity Interests deemed beneficially owned by virtue of the Series A Convertible Preferred Stock and any warrant exercisable for Common Stock), then the Maximum Percentage shall automatically increase to 9.99% so long as such Holder Group owns in excess of 4.99% of such class of Equity Interests (and shall, for the avoidance of doubt, automatically decrease to 4.99% upon such Holder Group ceasing to own in excess of 4.99% of such class of Equity Interests); and (ii) the term “**Holder Group**” shall mean, with respect to each holder of Series A Convertible Preferred Stock, such holder plus any other Person with which such holder is considered to be part of a group under Section 13 of the Exchange Act or with which such holder otherwise files reports under Sections 13 and/or 16 of the Exchange Act. In determining the number of Equity Interests of a particular class outstanding at any point in time, a holder may rely on the number of outstanding Equity Interests of such class as reflected in (x) the Corporation’s most recent Annual Report on Form 10-K or Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission, as the case may be, (y) a more recent public announcement by the Corporation or (z) a more recent notice by the Corporation or its transfer agent to such holder setting forth the number of Equity Interests of such class then outstanding. For any reason at any time, upon written or oral request of a holder, the Corporation shall, within two days of such request, confirm orally and in writing to such holder the number of Equity Interests of any class then outstanding. The provisions of this Section 6(i) shall be construed, corrected and implemented in a manner so as to effectuate the intended beneficial ownership limitation herein contained.

(j) Antitrust Notification. If any holder of Series A Convertible Preferred Stock determines, in its sole judgment upon the advice of counsel, that a conversion of any Series A Convertible Preferred Stock pursuant to the terms hereof would be subject to the provisions of the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended (the “*HSR Act*”), the Corporation shall file, within seven days after receiving notice from such holder of the applicability of the HSR Act and a request to so file, with the United States Federal Trade Commission (the “*FTC*”) and the United States Department of Justice (the “*DOJ*”) the notification and report form and any supplemental information required to be filed by it pursuant to the HSR Act in connection with the conversion of Series A Convertible Preferred Stock. Any such notification and report form and supplemental information will be in full compliance with the requirements of the HSR Act. The Corporation will furnish to such holder promptly (but in no event more than five days) such information and assistance as such holder may reasonably request in connection with the preparation of any filing or submission required to be filed by such holder under the HSR Act. The Corporation shall respond promptly after receiving any inquiries or requests for additional information from the FTC or the DOJ (and in no event more than three days after receipt of such inquiry or request). The Corporation shall keep such holder apprised periodically and at such holder’s request of the status of any communications with, and any inquiries or requests for additional information from, the FTC or the DOJ. The Corporation shall bear all filing or other fees required to be paid by the Corporation and such holder (or the “ultimate parent entity” of such holder, if any) under the HSR Act or any other applicable law in connection with such filings and all costs and expenses (including, without limitation, reasonable attorneys’ fees and expenses) incurred by the Corporation and such holder in connection with the preparation of such filings and responses to inquiries or requests. In the event that this Section 6(j) is applicable to any conversion of any Series A Convertible Preferred Stock, the receipt by the holder of the Common Stock subject to such exercise shall be subject to the expiration or earlier termination of the waiting period under the HSR Act (with the conversion date being deemed to be the date immediately following the date of such expiration or early termination).

#### 7. Redemption Upon Change of Control.

(a) Redemption Right and Price. Subject to Section 7(d), upon the occurrence of a Change of Control, each holder of Series A Convertible Preferred Stock shall have the right to require the Corporation to redeem any or all of such holder’s Series A Convertible Preferred Stock, for cash, at a redemption price per share of Series A Convertible Preferred Stock equal to the Change of Control Price.

(b) Initial Change of Control Notice. On or before the tenth (10<sup>th</sup>) business day prior to the date on which the Corporation anticipates consummating a Change of Control (or, if later, promptly after the Corporation discovers that a Change of Control may occur), a written notice (a “*Change of Control Notice*”) shall be sent by or on behalf of the Corporation to each holder of Series A Convertible Preferred Stock as they appear in the records of the Corporation at the address for such holder last shown on the records of the transfer agent therefor (or the records of the Corporation, if it serves as its own transfer agent), which notice shall contain the date on which the Change of Control is anticipated to be effected (or, if applicable, the date on which a Schedule TO or other schedule, form or report disclosing a Change of Control was filed). The Change of Control Notice shall include (i) a description of the material terms and conditions of the Change of Control, (ii) the date on which the Change of Control is anticipated to be consummated, (iii) the Change of Control redemption price and the calculation thereof, and (iv) the instructions a holder must follow to receive payment.

#### (c) Exercise of Redemption Right.

Any holder of Series A Convertible Preferred Stock may exercise the holder’s redemption right under Section 7(a) by delivering to the Corporation at its principal office a written notice stating the holder’s intention to exercise the holder’s redemption right and the number of the holder’s shares of Series A Convertible Preferred Stock to be redeemed. The Corporation shall be obligated to redeem the total number of shares of Series A Convertible Preferred Stock specified in the holder’s redemption notice on or before the thirtieth (30<sup>th</sup>) business day following the Corporation’s receipt of the redemption request by payment of the Change of Control Price as specified in the Corporation’s Change of Control Notice. Any exercise notice delivered by a holder of Series A Convertible Preferred Stock pursuant to this Section 7(c) shall be revocable by such holder at any time prior to the payment to such holder of the Change of Control Price.

(d) Insufficient Funds. If the funds of the Corporation legally available for redemption by the holder of the Series A Convertible Preferred Stock pursuant to Section 7(a) on any redemption date are insufficient to redeem all shares of the Series A Convertible Preferred Stock being redeemed by the Corporation on such date, those funds which are legally available will be used first to redeem, on a pro rata basis from the holders thereof based on the number of shares of Series A Convertible Preferred Stock then held, the maximum possible number of shares of the Series A Convertible Preferred Stock being redeemed in accordance with the aggregate redemption proceeds payable with respect to the shares of Series A Convertible Preferred Stock to be redeemed. At any time thereafter when additional funds of the Corporation become legally available for the redemption of the Series A Convertible Preferred Stock, such funds will be used to redeem the balance of the shares of Series A Convertible Preferred Stock which the Corporation was theretofore obligated to redeem as provided in the immediately preceding sentence. Any shares of Series A Convertible Preferred Stock which are not redeemed as a result of the circumstances described in this Section 7(d) shall remain outstanding until such shares shall have been redeemed and the redemption price therefor, as applicable, shall have been paid or set aside by the Corporation, separate and apart from its other funds in trust for the pro rata benefit of the holders of the shares Series A Convertible Preferred Stock to be redeemed, so as to be, and to continue to be available therefor.

(e) Change of Control Agreements. The Corporation shall not enter into any agreement for a transaction constituting a Change of Control unless (i) such agreement provides for or does not interfere with or prevent (as applicable) the payment in full of the amounts owed pursuant to this Section 7, and (ii) the acquiring or surviving Person in such Change of Control represents or covenants, in form and substance reasonably satisfactory to the Board of Directors of the Corporation acting in good faith, that at the closing of such Change of Control, to the effect that such Person shall have sufficient funds (which may include, without limitation, cash and cash equivalents on the Corporation's balance sheet, the proceeds of any debt or equity financing, available lines of credit or uncalled capital commitments) to consummate such Change of Control and the payment of the Change of Control payments in respect of the outstanding shares of Series A Convertible Preferred Stock.

(f) Restrictions on Other Payments. After the receipt by the Corporation of a redemption request pursuant to Section 7(c), unless and until the full redemption price for the shares of Series A Convertible Preferred Stock to be redeemed on any redemption date has been paid to the holders requesting such redemption, (i) no dividends shall be paid or declared or set aside for payment or other distribution upon any capital stock of the Corporation and (ii) no shares of capital stock of the Corporation other than Series A Convertible Preferred Stock shall be redeemed, retired, purchased or otherwise acquired for any consideration (or any payment made to or available for a sinking fund for the redemption of any such shares) by the Corporation or any subsidiary (except by conversion into or exchange for shares of Common Stock for which adjustment may be made pursuant to Section 6 above).

(g) Conversion Prior to Redemption. At any time after delivering a request for redemption pursuant to this Section 7 and prior to receipt of the redemption price therefor, such holder shall be permitted to convert any or all of its Series A Convertible Preferred Stock, including any shares subject to a redemption notice, in the manner contemplated by Section 6 and the Corporation shall have no obligation to make a redemption payment with respect to any Series A Convertible Preferred Stock so converted.

(h) Rights Terminated. Upon payment to a holder of Series A Convertible Preferred Stock of an amount in cash equal to the redemption price for the shares of Series A Convertible Preferred Stock being redeemed on any redemption date, each holder of Series A Convertible Preferred Stock will cease to have any rights as a stockholder of the Corporation by reason of the ownership of such redeemed shares of Series A Convertible Preferred Stock (except for the right to receive the redemption price therefor upon the surrender of the certificate or certificates representing the redeemed shares if such certificate or certificates have not been surrendered), and such redeemed shares of Series A Convertible Preferred Stock will not from and after the date of payment in full of the redemption price therefor be deemed to be outstanding.

(i) Partial Redemption. In case any certificate for shares of Series A Convertible Preferred Stock shall be surrendered for partial redemption, the Corporation shall execute and deliver to or upon the written order of the holder of the certificate so surrendered a new certificate for the shares of Series A Convertible Preferred Stock not redeemed.

(j) Effect of Redemption. Effective immediately prior to the close of business on the redemption date for any shares of Series A Convertible Preferred Stock redeemed pursuant to this Section 7, dividends shall no longer accrue or be declared on any such shares of Series A Convertible Preferred Stock, and such shares of Series A Convertible Preferred Stock shall cease to be outstanding.

(k) Status of Redeemed Shares. Shares of Series A Convertible Preferred Stock redeemed in accordance with this Section 7, shall return to the status of and constitute authorized but unissued shares of Preferred Stock, without classification as to series until such shares are once more classified as a particular series by the Board of Directors pursuant to the provisions of the Articles of Incorporation.

#### 8. Optional Redemption by the Corporation.

(a) Redemption Right and Price. On or at any time after (i) the VWAP for at least twenty (20) Trading Days in any thirty (30) Trading Day period is greater than \$2.00, subject to adjustment in the case of stock split, stock dividends or the like the Corporation shall have the right to redeem, in whole or in part, on a pro rata basis from all holders thereof based on the number of shares of Series A Convertible Preferred Stock then held, the outstanding Series A Convertible Preferred Stock, for cash, at a redemption price per share of Series A Convertible Preferred Stock of \$225.00 subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A Convertible Preferred Stock, or (ii) the five year anniversary of the Issue Date, the Corporation shall have the right to redeem, in whole or in part, on a pro rata basis from all holders thereof based on the number of shares of Series A Convertible Preferred Stock then held, the outstanding Series A Convertible Preferred Stock, for cash, at a redemption price per share equal to the Liquidation Value.

(b) Exercise of Redemption Right. The Corporation may exercise its redemption right under this Section 8 by delivering to the applicable holder as they appear in the records of the Corporation at the address for such holder last shown on the records of the transfer agent therefor (or the records of the Corporation, if it serves as its own transfer agent) an irrevocable written notice stating the Corporation's intention to exercise its redemption right, the number of the holder's shares of Series A Convertible Preferred Stock to be redeemed and the time of such redemption, which shall not be sooner than six (6) months after the delivery of such notice.

(c) Notice of Redemption. The Corporation shall provide notice of any redemption requested by the Corporation under Section 8(a), specifying the time and place of redemption and the redemption price, by first class or registered mail, postage prepaid, return receipt requested, to each holder of record of Series A Convertible Preferred Stock at the address for such holder last shown on the records of the transfer agent therefor (or the records of the Corporation, if it serves as its own transfer agent), not less than six (6) months prior to each redemption date.

(d) Rights Terminated. Upon payment to a holder of Series A Convertible Preferred Stock of an amount in cash equal to the redemption price for the shares of Series A Convertible Preferred Stock being redeemed on any redemption date, each holder of Series A Convertible Preferred Stock will cease to have any rights as a stockholder of the Corporation by reason of the ownership of such redeemed shares of Series A Convertible Preferred Stock (except for the right to receive the redemption price therefor upon the surrender of the certificate or certificates representing the redeemed shares if such certificate or certificates have not been surrendered), and such redeemed shares of Series A Convertible Preferred Stock will not from and after the date of payment in full of the redemption price therefor be deemed to be outstanding.

(e) Conversion Prior to Redemption. At any time after the receipt by a holder of a notice of redemption from the Corporation pursuant to Section 8(c) and prior to receipt of the redemption price therefor, such holder shall be permitted to convert any or all of its Series A Convertible Preferred Stock, including any shares subject to a redemption notice, in the manner contemplated by Section 6.

(f) Effect of Redemption. Effective immediately prior to the close of business on the redemption date for any shares of Series A Convertible Preferred Stock redeemed pursuant to this Section 8, dividends shall no longer accrue or be declared on any such shares of Series A Convertible Preferred Stock, and such shares of Series A Convertible Preferred Stock shall cease to be outstanding.

(g) Status of Redeemed Shares. Shares of Series A Convertible Preferred Stock redeemed in accordance with this Section 8, shall return to the status of and constitute authorized but unissued shares of Preferred Stock, without classification as to series until such shares are once more classified as a particular series by the Board of Directors pursuant to the provisions of the Articles of Incorporation.

9. **Impairment.** The Corporation shall not amend the Articles of Incorporation or bylaws or participate in any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action for the purpose of avoiding or seeking to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation, but shall at all times act in good faith in carrying out all such action as may be reasonably necessary or appropriate in order to protect the conversion rights of the holders of Series A Convertible Preferred Stock against dilution or other impairment, as set forth herein.

10. **Definitions.** The following terms shall have the following respective meanings:

**“Accreted Value”** means, with respect to each share of Series A Convertible Preferred Stock, the sum, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A Convertible Preferred Stock, of (i) the Original Purchase Price plus (ii) on each Quarterly Dividend Date, an additional amount equal to the dollar value of any dividends on a share of Convertible Preferred Stock which have accrued on any dividend payment date and have not been declared and paid in cash or previously added to such Accreted Value.

**“Annual Rate”** means 2.0% per annum

**“Change of Control”** means the occurrence of one of the following:

(a) any “person” or “group” (as such terms are used in Sections 13(d) and 14(d) of the Exchange Act), is or becomes the “beneficial owner” (as defined in Rules 13d-3 and 13d-5 under the Exchange Act), directly or indirectly, of a majority of the capital stock having the right to vote generally in the election of directors of the Board of Directors of the Corporation (the “**Voting Stock**”), other than as a result of a transaction in which (i) the holders of securities that represented 100% of the Voting Stock of the Corporation immediately prior to such transaction are substantially the same as the holders of securities that represent a majority of the Voting Stock of the surviving Person immediately after such transaction and (ii) the holders of securities that represented 100% of the Voting Stock of the Corporation immediately prior to such transaction own directly or indirectly Voting Stock of the surviving Person in substantially the same proportion to each other as immediately prior to such transaction; or

(b) the merger or consolidation of the Corporation with or into another Person or the merger of another Person with or into the Corporation, or the sale or other disposition of all or substantially all the assets of the Corporation (determined on a consolidated basis) to another Person in one or a series of transactions, other than a transaction following which (i) in the case of a merger or consolidation transaction, (x) holders of securities that represented 100% of the Voting Stock of the Corporation immediately prior to such transaction (or other securities into which such securities are converted as part of such merger or consolidation transaction) own directly or indirectly at least a majority of the voting power of the Voting Stock of the surviving Person in such merger or consolidation transaction immediately after such transaction and (y) the holders of securities that represented 100% of the Voting Stock of the Corporation immediately prior to such transaction (or other securities into which such securities are converted as part of such merger or consolidation transaction) own directly or indirectly Voting Stock of the surviving Person in substantially the same proportion to each other as immediately prior to such transaction, and (ii) in the case of a sale of all or substantially all of the assets of the Corporation, other than to a wholly owned subsidiary or a Person that becomes a wholly owned subsidiary of the Corporation.

**“Change of Control Price”** means the greater of (x) the Accreted Value and (y) the amount that would be payable in the Change of Control in respect of Common Stock issuable upon conversion of such share of Series A Convertible Preferred Stock if all outstanding shares of Series A Convertible Preferred Stock were converted into Common Stock immediately prior to the Change of Control in accordance with Section 6 hereof without regard to any limitation on conversion in accordance with Section 6(i).

**“Common Stock”** means the common stock, par value \$0.001 per share, of the Corporation.

**“Exchange Act”** means the Securities Exchange Act of 1934, as amended, and the rules and regulations of the Securities and Exchange Commission promulgated thereunder.

**“Issue Date”** means, with respect to each share of the Series A Convertible Preferred Stock, the date on which such share of Series A Convertible Preferred Stock was issued.

**“Original Purchase Price”** means \$100.00 per share of Series A Convertible Preferred Stock.

**“Person”** means, without limitation, an individual, a partnership, a corporation, an association, a joint stock corporation, a limited liability Corporation, a trust, a joint venture, an unincorporated organization and a governmental authority.

**“Quarterly Dividend Date”** shall mean March 31, June 30, September 30 and December 31 of each year.

**“Required Holders”** means holders of a majority of the then outstanding shares of Series A Convertible Preferred Stock.

**“Trading Day”** means (a) any day on which the Common Stock is listed or quoted and traded on its primary Trading Market or (b) if the Common Stock is not then listed or quoted and traded on any Trading Market, then a day on which trading occurs on the NYSE AMERICAN LLC (or any successor thereto).

**“Trading Market”** means the following market(s) or exchange(s) on which the Common Stock is listed or quoted for trading on the date in question (as applicable): the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, the New York Stock Exchange or the NYSE AMERICAN LLC or any successor markets thereto.

**“VWAP”** on any Trading Day means the per share volume-weighted average price of the Common Stock as reported by Bloomberg, L.P. (or its equivalent successor if such page is not available) in respect of the period from the scheduled open of trading until the scheduled close of trading of the primary trading session on such Trading Day. VWAP shall be determined without regard to after-hours trading or any other trading outside of the regular trading session trading hours. If VWAP cannot be calculated on such date on any of the foregoing bases, the VWAP on such date shall be the fair market value of the Common Stock as determined in good faith by the Board of Directors.

*[Remainder of Page Intentionally Left Blank]*

IN WITNESS WHEREOF, this Certificate of Designation has been signed on behalf of the Corporation by its President and Chief Executive Officer as of September 11, 2017.

SYNTHETIC BIOLOGICS, INC.

By: /s/ Jeffrey Riley  
Name: Jeffrey Riley  
Title: President, Chief Executive Officer

[Convertible Preferred Stock Certificate of Designation]

**REGISTRATION RIGHTS AGREEMENT**

This Registration Rights Agreement (the "Agreement") is made and entered into as of this September 11, 2017 by and among Synthetic Biologics, Inc., a Nevada corporation (the "Company"), and MSD Credit Opportunity Master Fund, L.P., a Delaware limited partnership (together with each subsequent holder of Registrable Shares, collectively, the "Holders" and, each individually, a "Holder"). Capitalized terms used herein have the respective meanings ascribed thereto in that certain Share Purchase Agreement dated as of the date hereof by and among the Company and the other parties signatory thereto (the "Purchase Agreement") unless otherwise defined herein.

**RECITALS**

WHEREAS, the Company has issued shares of Preferred Stock to the Holder signatory hereto; and

WHEREAS, in connection with the consummation of the transactions contemplated by the Purchase Agreement, the parties desire to enter into this Agreement in order to grant certain registration rights to the Holders as set forth below.

NOW, THEREFORE, in consideration of the promises, covenants and conditions set forth herein, the parties hereto hereby agree as follows:

1. Certain Definitions. As used in this Agreement, the following terms shall have the following meanings:

"Commission" means the U.S. Securities and Exchange Commission.

"Common Stock" means the Company's common stock, par value \$0.001 per share, and any securities into which such shares may hereinafter be reclassified.

"Conversion Shares" shall mean collectively the shares of Common Stock of the Company or other Securities issuable upon conversion of the Preferred Stock.

"Exchange Act" means the Securities Exchange Act of 1934, as amended from time to time, and the rules and regulations promulgated thereunder from time to time in effect.

"Initiating Holder" means any Holder who properly initiates a registration request under this Agreement.

"Prospectus" means (i) the prospectus included in any Registration Statement, as amended or supplemented by any prospectus supplement, with respect to the terms of the offering of any portion of the Registrable Shares covered by such Registration Statement and by all other amendments and supplements to the prospectus, including post-effective amendments and all material incorporated by reference in such prospectus, and (ii) any "free writing prospectus" as defined in Rule 405 under the Securities Act.

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“Qualifying Holder” means any Holder that (a) is deemed to be an “affiliate” (as such term is defined in Rule 144(a)) of the Company or (b) beneficially owns (within the meaning of Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder) at least ten percent (10%) of the Company’s Common Stock then outstanding (disregarding for this purpose any and all limitations of any kind on conversion or exercise of any convertible securities owned by such Holder).

“Register,” “registered” and “registration” refer to a registration made by preparing and filing a Registration Statement or similar document in compliance with the Securities Act, and the declaration or ordering of effectiveness of such Registration Statement or document.

“Registrable Shares” means (i) any shares of Common Stock owned by the Holders, (ii) the Conversion Shares and (iii) any other securities issued or issuable with respect to or in exchange for the Conversion Shares, whether by merger, charter amendment or otherwise; provided, that, a security shall not be a Registrable Share (A) upon sale pursuant to a Registration Statement or Rule 144, or (B) while such security is eligible for sale without restriction by the Holders pursuant to Rule 144, assuming, for purposes of such determination with respect to each Holder, the full conversion or exercise by such Holder of all convertible securities held by such Holder (disregarding for this purpose any and all limitations of any kind on conversion or exercise of any convertible securities owned by such Holder).

“Registration Statement” means any registration statement of the Company filed under the Securities Act that covers the resale of any of the Registrable Shares pursuant to the provisions of this Agreement, amendments and supplements to such Registration Statement, including post-effective amendments, all exhibits and all material incorporated by reference in such Registration Statement.

“Required Holders” means the Holders holding at least a majority of the Conversion Shares, considered collectively, then outstanding (disregarding for this purpose any and all limitations of any kind on conversion or exercise of any convertible securities owned by such Holder).

“Rule 144” means Rule 144 promulgated under the Securities Act or any successor rule thereto.

“Rule 430B” means Rule 430B promulgated under the Securities Act or any successor rule thereto.

“Securities Act” means the Securities Act of 1933, as amended from time to time, and the rules and regulations promulgated thereunder from time to time in effect.

2. Registration.

( a ) Filing of the Registration Statement. At any time after the date hereof, any Qualifying Holder may request registration under the Securities Act of the Registrable Shares. Upon receipt of such request, the Company shall (i) within five (5) Business Days after the date such request is given, advise the Initiating Holder whether the Company is permitted to rely upon Rule 430B to omit certain information from the Prospectus, (ii) within ten (10) days after the date such request is given, give notice thereof (the “Demand Notice”) to all Holders other than the Initiating Holder and advise such Holders whether the Company is permitted to rely upon Rule 430B to omit certain information from the Prospectus, (iii) cause to be prepared and filed with the Commission a Registration Statement on Form S-3 (or, if the Company is not eligible to use Form S-3, on Form S-1) within sixty (60) days of such request (the “Filing Deadline”) for purposes of registering for sale to the public the Registrable Shares, and (iv) use its best efforts to cause such Registration Statement to be declared effective under the Securities Act by the Commission as soon as practicable thereafter and in any event no later than one hundred twenty (120) days after the date of such request. Any Holder may provide notice to the Company within ten (10) days of receipt of the Demand Notice that such Holder wishes to be excluded from the selling stockholder table of such Registration Statement (the “Excluded Shares”). The Company shall include all outstanding Registrable Shares on such Registration Statement, including the Excluded Shares, to the extent the Company is permitted to rely upon Rule 430B to omit certain information from the Prospectus, including the names of those Holders of Excluded Shares; provided, however, that the Company will not include the Excluded Shares on such Registration Statement if the Company is not permitted to rely upon Rule 430B; provided, however, that the Company shall not be required to include any Holders to be named in the Registration Statement unless they have provided the Company with their up to date share ownership information within five (5) business days of the Company’s request. If the Company files the Registration Statement on Form S-1 and subsequently becomes eligible to use Form S-3, the Company shall file a post-effective amendment to such Form S-1 on Form S-3 and use its best efforts to cause the Registration Statement, as so amended, to become effective within sixty (60) days of the filing thereof. Subject to any Commission comments, the foregoing Registration Statement shall include the plan of distribution attached hereto as Exhibit A; provided, however, that no Holder shall be named as an “underwriter” in such Registration Statement without such Holder’s prior written consent. If the Registration Statement covering the Registrable Shares is not filed with the Commission on or prior to its Filing Deadline, the Company will make pro rata payments to each Holder that requested that its Registrable Shares be included on such Registration Statement, as liquidated damages and not as a penalty, in an amount (A) at a rate per 30-day period of 0.25% of the aggregate amount invested by such Holder pursuant to the Purchase Agreement that shall accrue daily, for the first 30-day period (or pro rata portion thereof) following such Filing Deadline, (B) increasing by an additional 0.25% of the aggregate amount invested by such Holder pursuant to the Purchase Agreement per 30-day period, that shall accrue daily, for each subsequent 30-day period, and (C) up to a maximum of 2.0% of the aggregate amount invested by such Holder pursuant to the Purchase Agreement per 30-day period. Such payments shall be made to each such Holder in cash no later than three (3) Business Days after the end of each 30-day period. Notwithstanding anything to the contrary set forth in this Section 2, in the event the Commission does not permit the Company to register all of the Registrable Shares in the Registration Statement because of the Commission’s application of Rule 415, (i) the number of Registrable Shares that may be registered on such Registration Statement shall be reduced to the number permitted by the Commission and (ii) the Company shall send prompt notice of the amount of such reduction to each Holder that requested that its Registrable Shares be included on such Registration Statement. The Company shall use its commercially reasonable efforts to file additional Registration Statements (each, a “Subsequent Registration Statement”) to register the Registrable Shares that were not registered in the initial Registration Statement as promptly as possible but in no event later than on the Filing Deadline and in a manner permitted by the Commission. For purposes of this Section 2(b), “Filing Deadline” means with respect to each Subsequent Registration Statement filed pursuant hereto, the later of (i) sixty (60) days following the sale of substantially all of the Registrable Shares included in the initial Registration Statement or any Subsequent Registration Statement and (ii) six (6) months following the effective date of the initial Registration Statement or any Subsequent Registration Statement, as applicable, or such earlier date as permitted by the Commission. For purposes of this Section 2(b), “Effectiveness Date” means with respect to each Subsequent Registration Statement filed pursuant hereto, the earlier of (A) the ninetieth (90th) day following the filing date of such Subsequent Registration Statement (or in the event such Subsequent Registration Statement receives a “full review” by the Commission, the one hundred twentieth (120th) day following such filing date) or (B) the date which is within three (3) Business Days after the date on which the Commission informs the Company (i) that the Commission will not review such Subsequent Registration Statement or (ii) that the Company may request the acceleration of the effectiveness of such Subsequent Registration Statement; provided, that, if the Effectiveness Date falls on a Saturday, Sunday or any other day which shall be a legal holiday or a day on which the Commission is authorized or required by law or other government actions to close, the Effectiveness Date shall be the following Business Day.

(b) Effectiveness.

( i ) Following the declaration of effectiveness by the Commission of the Registration Statement filed pursuant to Section 2(a), the Company shall (i) use commercially reasonable efforts to cause such Registration Statement to remain effective and provide all requisite financial statements until such time as there cease to be Registrable Shares, (ii) use commercially reasonable efforts to prepare and file with the Commission such amendments and supplements to such Registration Statement and the Prospectus used in connection therewith as may be necessary to keep such Registration Statement effective until such time as there cease to be Registrable Shares, (iii) furnish to each Holder offering Registrable Shares under such Registration Statement such number of copies of a summary Prospectus or other Prospectus, including a preliminary Prospectus complying with the requirements of the Securities Act, as such Holder may reasonably request, (iv) comply with the provisions of the Securities Act with respect to the disposition of all Registrable Shares covered by the Registration Statement during such period in accordance with the intended methods of distribution by the selling holders thereof set forth in the Registration Statement, and (v) prior to any public offering of Registrable Shares, cooperate with the selling holders and the underwriter(s), if any, in connection with the registration and qualification of the Registrable Shares under the state securities or "blue sky" laws of such jurisdictions within the United States of America as the selling holders or underwriter(s), if any, may reasonably request and to use commercially reasonable efforts to do any and all other acts or things necessary or advisable to permit the disposition in such jurisdictions of the Registrable Shares covered by the Registration Statement in a manner that is in compliance with the applicable laws of such jurisdiction or, in the event that the registration does not involve an underwritten public offering, as each such selling holder shall reasonably request. The Company will promptly, and in any event within one (1) Business Day of having received notice of the following, notify each Holder of (1) any stop order issued or, to the knowledge of the Company, threatened by the Commission and take all commercially reasonable actions to obtain the withdrawal or lifting of such order if it has been issued or prevent the entry of such stop order if it has not yet been issued; (2) when the Registration Statement or any post-effective amendment thereto has been filed with the Commission and when the Registration Statement or any post-effective amendment thereto has become effective; (3) any request by the Commission for amendments or supplements to the Registration Statement or the Prospectus included therein or for additional information; and (4) any notification with respect to the suspension of the qualification of the Registrable Shares included therein for sale in any jurisdiction or the initiation or threatening of any proceeding for such purpose.

(ii) If after a Registration Statement has been declared effective by the Commission sales cannot be made pursuant to such Registration Statement for any reason (including without limitation by reason of a stop order, or the Company's failure to update the Registration Statement), but excluding the inability of any Holder to sell the Registrable Shares covered thereby due to market conditions, then the Company will make pro rata payments to each Holder that requested that its Registrable Shares be included on such Registration Statement, as liquidated damages and not as a penalty, in an amount (A) at a rate per 30-day period of 0.25% of the aggregate amount invested by such Holder pursuant to the Purchase Agreement that shall accrue daily, for the first 30-day period (or pro rata portion thereof) following the date by which such Registration Statement should have been effective, (B) increasing by an additional 0.25% of the aggregate amount invested by such Holder pursuant to the Purchase Agreement per 30-day period, that shall accrue daily, for each subsequent 30-day period, and (C) up to a maximum of 2.0% of the aggregate amount invested by such Holder pursuant to the Purchase Agreement per 30-day period. Such payments shall be made to each such Holder in cash no later than three (3) Business Days after the end of each 30-day period.

(iii) Any Holder of Excluded Shares may request to be added as a selling stockholder to such effective Registration Statement to the extent permitted under Rule 430B. To the extent not permitted under Rule 430B, a Qualifying Holder may request registration of such Holder's Registrable Shares pursuant to Section 2(a) above.

(c) Right to Piggyback Registration.

(i) If at any time following the date of this Agreement that any Registrable Shares remain outstanding the Company proposes for any reason to register any shares of Common Stock under the Securities Act (other than pursuant to a registration statement on Form S-4 or Form S-8 (or a similar or successor form)) with respect to an offering of Common Stock by the Company for its own account or for the account of any of its stockholders, it shall at each such time promptly give written notice to the Holders, in accordance with the provisions of Section 5(b) below, of its intention to do so (but in no event less than thirty (30) days before the anticipated filing date) and, to the extent permitted under the provisions of Rule 415 under the Securities Act, include in such registration all Registrable Shares with respect to which the Company has received written requests for inclusion therein within fifteen (15) days after receipt of the Company's notice (a "Piggyback Registration"). Such notice shall offer the Holders the opportunity to register such number of shares of Registrable Shares as each such Holder may request and shall indicate the intended method of distribution of such Registrable Shares. By written notice delivered to the Company, any Holder (an "Opting-Out Holder") may elect to waive its right to participate in Piggyback Registrations ("Registration Opt-Out"), until such time as such written notice is rescinded in writing. During such time as a Registration Opt-Out is in effect: (x) the Opting-Out Holder shall not receive notices of any proposed Piggyback Registration and (y) shall not be entitled to participate in any such Piggyback Registration pursuant to this Section 2(c). Notwithstanding anything to the contrary set forth in this Section 2(c)(i), in the event the Commission does not permit the Company to register all of the Registrable Shares in the Registration Statement because of the Commission's application of Rule 415, the number of Registrable Shares that may be registered on such Registration Statement shall be allocated in the following priority: *first*, the Common Stock being registered by the Company for its own account and *second*, pro rata among the Holders and the other stockholders of the Company.

(i i) Notwithstanding the foregoing, (A) if such registration involves an underwritten public offering, the Holders must sell their Registrable Shares to, if applicable, the underwriter(s) at the same price and subject to the same underwriting discounts and commissions that apply to the other securities sold in such offering (it being acknowledged that the Company shall be responsible for other expenses as set forth in Section 3(b)) and subject to the Holders entering into customary underwriting documentation for selling stockholders in an underwritten public offering, and (B) if, at any time after giving written notice of its intention to register any Registrable Shares pursuant to Section 2(c)(i) and prior to the effective date of the registration statement filed in connection with such registration, the Company shall determine for any reason not to cause such registration statement to become effective under the Securities Act, the Company shall deliver written notice to the Holders and, thereupon, shall be relieved of its obligation to register any Registrable Shares in connection with such registration; provided, however, that nothing contained in this Section 2(c)(ii) shall limit the Company's liabilities and/or obligations under this Agreement, including, without limitation, the obligation to pay liquidated damages under this Section 2.

(d) Underwriting Requirements.

(i) If, at any time after the filing of a registration statement pursuant to Section 2(a), any Holder intends to distribute at least \$15 million of Registrable Shares (including Registrable Shares held by other Holders) by means of an underwriting, then such Holder (the "Requesting Holder") shall so advise the Company. The underwriter(s) will be selected by the Requesting Holder, subject only to the reasonable approval of the Company. In such event, the right of any Holder to include such Holder's Registrable Shares in such registration shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Shares in the underwriting to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall (together with the Company as provided in Section 2(d)(iii)) enter into an underwriting agreement in customary form with the underwriter(s) selected for such underwriting; provided, however, that in no event shall the Holders be required to sign a lock-up agreement restricting such Holders for a period longer than (i) imposed upon the Company or its officers and directors or (ii) six (6) months following the effective date of the Registration Statement. Any discretionary waiver or termination of the lock-up restrictions described above by the Company or the underwriter(s) shall apply pro rata to all Holders subject to such lock-up restrictions, based on the number of Registrable Shares included in such underwriting. Notwithstanding any other provision of this Section 2(d)(i), if the managing underwriter(s) advise(s) the Requesting Holder in writing that marketing factors require a limitation on the number of shares to be underwritten, then the Requesting Holder shall so advise all Holders that otherwise would be underwritten pursuant hereto, and the number of Registrable Shares that may be included in the underwriting shall be allocated among such Holders, including the Requesting Holder, in proportion (as nearly as practicable) to the number of Registrable Shares owned by each Holder or in such other proportion as shall mutually be agreed to by all such selling Holders; provided, however, that the number of Registrable Shares held by the Holders to be included in such underwriting shall not be reduced unless all other securities are first entirely excluded from the underwriting.

( i i ) In connection with any offering involving an underwriting of shares of the Company's capital stock pursuant to Section 2(c), the Company shall not be required to include any of the Holders' Registrable Shares in such underwriting unless the Holders accept the terms of the underwriting as agreed upon between the Company and its underwriters, and then only in such quantity as the underwriters in their sole discretion determine will not jeopardize the success of the offering by the Company; provided, however, that in no event shall the Holders be required to sign a lock-up agreement restricting such Holders for a period longer than (i) imposed upon the Company or its officers and directors or (ii) six (6) months following the effective date of the Registration Statement. Any discretionary waiver or termination of the lock-up restrictions described above by the Company or the underwriters shall apply pro rata to all Holders subject to such lock-up restrictions, based on the number of Registrable Shares included in such underwriting. If the total number of securities, including Registrable Shares, requested by stockholders to be included in such offering exceeds the number of securities to be sold (other than by the Company) that the underwriters in their reasonable discretion determine is compatible with the success of the offering, then the Company shall be required to include in the offering only that number of such securities, including Registrable Shares, which the underwriters and the Company in their sole discretion determine will not jeopardize the success of the offering. If the underwriters determine that less than all of the Registrable Shares requested to be registered can be included in such offering, then the Registrable Shares that are included in such offering shall be allocated among the selling Holders in proportion (as nearly as practicable) to the number of Registrable Shares owned by each selling Holder or in such other proportions as shall mutually be agreed to by all such selling Holders. Notwithstanding the foregoing, in no event shall the number of Registrable Shares included in the offering be reduced unless all other securities (other than securities to be sold by the Company) are first entirely excluded from the offering. For purposes of the provision in this Section 2(d)(ii) concerning apportionment, for any selling Holder that is a partnership, limited liability company, or corporation, the partners, members, retired partners, retired members, stockholders, and Affiliates of such Holder, or the estates and immediate family members of any such partners, retired partners, members, and retired members and any trusts for the benefit of any of the foregoing Persons, shall be deemed to be a single "selling Holder," and any pro rata reduction with respect to such "selling Holder" shall be based upon the aggregate number of Registrable Shares owned by all Persons included in such "selling Holder," as defined in this sentence.

( i i i ) In connection with any offering involving an underwriting of shares of the Company's capital stock pursuant to Section 2(c), the Company shall enter into and perform its obligations under an underwriting agreement, in customary form, with the underwriter(s) of such offering and the Company shall comply with all customary requests by such underwriter(s), including, but not limited to, the delivery of a legal opinion, negative assurance letter and comfort letter, providing due diligence materials as reasonably requested by the underwriter(s) and participating in a road show if requested by the underwriter(s).

3 . Qualifications; Obligations; Restrictions. The obligations of the Company under Section 2 are subject to the following qualifications:

(a) the Company shall not include in any registration, qualification or compliance requested pursuant to Section 2(a) any other securities (including, without limitation, those to be issued and sold by the Company) without the prior written consent of the Required Holders;

(b) the Company shall pay all expenses incurred in complying with Section 2, including, all registration and filing fees, printing expenses, fees and disbursements of counsel for the Company and reasonable and documented fees and disbursements of one counsel for all of the Holders selected by the Holders of a majority of the Registrable Shares to be included in such registration, expenses of any special audits incident to or required by any such registration and expenses of complying with the securities or "blue sky" laws of any jurisdictions pursuant to Section 2(b)(i);

(c) the Company shall not grant any right relating to the registration of its securities if the exercise thereof conflicts with or restricts the exercise and enjoyment of any of the rights granted under this Agreement, without the written consent of the Required Holders, which consent may be given or withheld in the sole discretion of such Holders. The Company will not permit at any time after the date hereof any of its Subsidiaries to grant any right relating to the registration of its securities until the termination of this Agreement;

(d) the Company shall use its best efforts to cause all Registrable Shares covered by a Registration Statement to be listed on each securities exchange, interdealer quotation system or other market on which similar securities issued by the Company are then listed; and

( e ) the Company shall, with a view to making available to the Holders the benefits of Rule 144 (or its successor rule) and any other rule or regulation of the Commission that may at any time permit the Holders to sell shares of Common Stock to the public without registration, the Company covenants and agrees to: (i) make and keep public information available, as those terms are understood and defined in Rule 144, until the earlier of (A) six months after such date as all of the Registrable Shares may be sold without restriction by the holders thereof pursuant to Rule 144 or any other rule of similar effect or (B) such date as all of the Registrable Shares shall have been resold; (ii) file with the Commission in a timely manner all reports and other documents required of the Company under the Exchange Act; and (iii) furnish to each Holder upon request, as long as such Holder owns any Registrable Shares, (A) a written statement by the Company that it has complied with the reporting requirements of the Exchange Act, (B) a copy of the Company's most recent Annual Report on Form 10-K or Quarterly Report on Form 10-Q, and (C) such other information as may be reasonably requested in order to avail such Holder of any rule or regulation of the Commission that permits the selling of any such Registrable Shares without registration (any filing with the SEC on the Edgar filing system shall satisfy the delivery requirements under clause B).

4. Obligations of Holders of Registrable Shares.

(a) Subject to the provisions of this Section 4, following the effectiveness of a Registration Statement, the Company may direct the Holders, in accordance with Section 4(b), to suspend sales of Registrable Shares pursuant to such Registration Statement and the use of any Prospectus or preliminary Prospectus contained therein for the shortest amount of time as the Company reasonably determines is necessary and advisable (but in no event for more than an aggregate of 60 days in any consecutive 12-month period commencing on the date hereof or more than an aggregate of 30 days in any consecutive 180-day period (a "Suspension Period")), if any of the following events shall occur: (1) the majority of the Company's board of directors determines in good faith, upon the advice of counsel, that an event has occurred or is continuing as a result of which the Registration Statement or Prospectus contained therein contains an untrue statement of a material fact or omits any fact necessary to make the statements therein not misleading causing such Registration Statement or the Prospectus contained therein not to be usable for resale of the Registrable Shares during the period required by this Agreement; (2) the majority of the Company's board of directors determines in good faith, upon the advice of counsel, that the sale of Registrable Shares pursuant to such Registration Statement would require disclosure of material non-public information not otherwise required to be disclosed under applicable laws and the Company has a bona fide business purpose for preserving the confidentiality of such information or disclosure of such information would have a material adverse effect on the Company, in each case under circumstances that would make it impractical or inadvisable to cause the Registration Statement to become effective or to promptly amend or supplement the Registration Statement on a post-effective basis, as applicable; or (3) the majority of the Company's board of directors determines in good faith, upon the advice of counsel, that it is required by law, rule or regulation or Commission-published release or interpretation to supplement the Registration Statement or file a post-effective amendment to the Registration Statement in order to incorporate information into the Registration Statement, including for the purpose of (a) including in the Registration Statement any Prospectus required under Section 10(a)(3) of the Securities Act, (b) reflecting in the Prospectus any facts or events arising after the effective date of the Registration Statement (or of the most recent post-effective amendment) that, individually or in the aggregate, represents a fundamental change in the information set forth therein, or (c) including in the Prospectus any material information with respect to the plan of distribution not disclosed in the Registration Statement or any material change to such information (each of the events in clause (1), (2) and (3), a "Suspension Event"). Upon the occurrence of any such Suspension Event, the Company shall use commercially reasonable efforts to cause the Registration Statement to become effective or to promptly amend or supplement the Registration Statement on a post-effective basis or to take such action as is necessary to permit the Holders to resume sales of such securities as soon as possible and to promptly make available to each selling Holder any such supplement or amendment.

(b) Upon the occurrence of a Suspension Event, the Company shall provide to each Holder a notice (a “Suspension Notice”), which notice shall not include any material non-public information, that a Suspension Event has occurred or is occurring, and each Holder agrees that upon receipt of a Suspension Notice, such Holder will forthwith discontinue disposition of Registrable Shares pursuant to the Registration Statement until (A) such Holder’s receipt of the copies of the supplemented or amended Prospectus that addresses the reasons for providing the Suspension Notice, or (B) it is advised in writing by the Company that the use of the Prospectus may be resumed, and has received copies of any additional or supplemental filings that are incorporated by reference in the Prospectus. Each Holder receiving a Suspension Notice hereby agrees that it will, at such Holder’s election, either (1) destroy any Prospectuses, other than permanent file copies, then in such Holder’s possession that have been replaced by the Company with more recently dated Prospectuses, or (2) deliver to the Company (at the Company’s expense) all copies, other than permanent file copies then in such Holder’s possession, of the Prospectus covering such Registrable Shares that was current at the time of receipt of such notice. Notwithstanding anything herein to the contrary, (A) a Holder shall be entitled to inquire of the Company further details regarding the nature of a Suspension Event for which it has been served a Suspension Notice, and the Company shall use its commercially reasonable efforts to provide any information requested about the Suspension Event to such Holder and (B) the Company shall not serve a Suspension Notice to the Holders, unless, concurrently therewith, it has suspended sales under all other effective registration statements relating to the resale of the Company’s securities.

(c) Each Holder, by its acceptance of the Registrable Shares, agrees to cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of a Registration Statement hereunder, unless such Holder has notified the Company in writing of its election to exclude all of its Registrable Shares from such Registration Statement.

5. Due Diligence Review: Information.

(a) The Company shall make available, during normal business hours upon at least five (5) Business Days’ prior notice, for inspection and review by the Holders, advisors to and representatives of the Holders (who may or may not be affiliated with the Holders and who are reasonably acceptable to the Company), and any underwriter(s), all financial and other records, all filings with the Commission, and all other corporate documents and properties of the Company as may be reasonably necessary for the purpose of such review, and cause the Company’s officers, directors and employees, within a reasonable time period, to supply all such information reasonably requested by the Holders or any such representative, advisor or underwriter in connection with the Registration Statement (including, without limitation, in response to all questions and other inquiries reasonably made or submitted by any of them), prior to and from time to time after the filing and effectiveness of each Registration Statement for the sole purpose of enabling the Holders and such representatives, advisors and underwriters and their respective accountants and attorneys to conduct initial and ongoing due diligence with respect to the Company and the accuracy of the Registration Statement; provided, however that all information obtained in connection with any such inspection shall be subject to a confidentiality agreement in a form mutually agreed upon by the Corporation and any Holder conducting such inspection.

(b) Notwithstanding anything contained herein to the contrary, the Company shall not disclose material nonpublic information to the Holders, or to advisors to or representatives of the Holders, unless prior to disclosure of such information the Company identifies such information as being material nonpublic information and provides the Holders, such advisors and representatives with the opportunity to accept or refuse to accept such material nonpublic information for review and any Holder wishing to obtain such information enters into an appropriate confidentiality agreement with the Company with respect thereto.

6. Indemnification.

(a) To the extent permitted by law, the Company shall indemnify each Holder, and each person controlling such Holder within the meaning of Section 15 of the Securities Act, with respect to which any registration that has been effected pursuant to this Agreement, against all claims, losses, damages and liabilities (or action in respect thereof), including any of the foregoing incurred in settlement of any litigation, commenced or threatened (subject to Section 6(c) below), arising out of or based on any untrue statement (or alleged untrue statement) of a material fact contained in the Registration Statement, Prospectus, any amendment or supplement thereof or based on any omission (or alleged omission) to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, in light of the circumstances in which they were made, or any violation by the Company of any rule or regulation promulgated by the Securities Act applicable to the Company and relating to any action or inaction required of the Company in connection with any such registration and will reimburse each Holder and each person controlling such Holder for reasonable legal and other expenses reasonably incurred in connection with investigating or defending any such claim, loss, damage, liability or action as incurred; provided, however, that the Company will not be liable in any such case to the extent that any untrue statement or omission or allegation thereof is made in reliance upon and in conformity with written information furnished to the Company by or on behalf of such Holder expressly for use in preparation of such Registration Statement, Prospectus, or any amendment or supplement thereof; provided further, however, that the Company will not be liable in any such case where the claim, loss, damage or liability arises out of or is related to the failure of the Holder to comply with the covenants and agreements contained in this Agreement respecting sales of Registrable Shares, and except that the foregoing indemnity agreement is subject to the condition that, insofar as it relates to any such untrue statement or alleged untrue statement or omission or alleged omission made in the preliminary Prospectus but eliminated or remedied in the amended Prospectus on file with the Commission at the time the Registration Statement becomes effective or in the amended Prospectus filed with the SEC pursuant to Rule 424(b) or in the Prospectus subject to completion under Rule 434 of the Securities Act, which together meet the requirements of Section 10(a) of the Securities Act (the "Final Prospectus"), such indemnity shall not inure to the benefit of any such Holder or any such controlling person, if a copy of the Final Prospectus furnished by the Company to the Holder for delivery was not furnished to the person or entity asserting the loss, liability, claim or damage at or prior to the time such furnishing is required by the Securities Act and the Final Prospectus would have cured the defect giving rise to such loss, liability, claim or damage.

( b ) Each party entitled to indemnification under this Section 6 (the “Indemnified Party”) shall give notice to the party required to provide indemnification (the “Indemnifying Party”) promptly after such Indemnified Party has actual knowledge of any claim as to which indemnity may be sought, and shall permit the Indemnifying Party (at its expense) to assume the defense of any such claim or any litigation resulting therefrom, provided, however, that counsel for the Indemnifying Party, who shall conduct the defense of such claim or litigation, shall be approved by the Indemnified Party (whose approval shall not unreasonably be withheld), and the Indemnified Party may participate in such defense provided that all legal and other expenses incurred by the Indemnified Party in connection therewith shall be at such Indemnified Party’s expense, and, provided further, that the failure of any Indemnified Party to give notice as provided herein shall not relieve the Indemnifying Party of its obligations under this Agreement, unless such failure is materially prejudicial to the Indemnifying Party in defending such claim or litigation. An Indemnifying Party shall not be liable for any settlement of an action or claim effected without its written consent (which consent will not be unreasonably withheld). No Indemnifying Party, in its defense of any such claim or litigation, shall, except with the consent of each Indemnified Party, consent to entry of any judgment or enter into any settlement which does not include as an unconditional term thereof the giving by the claimant or plaintiff to such Indemnified Party of a release from all liability in respect to such claim or litigation. Notwithstanding the foregoing, the Company shall not, in connection with any one such action or proceeding or separate but substantially similar or related actions or proceedings in the same jurisdiction arising out of the same general allegations or circumstances, be liable for the reasonable fees and expenses of more than one separate firm of attorneys (in addition to any local counsel) at any time for indemnified Holders as a group, which firm shall be designated by such Holders.

(c) If the indemnification provided for in this Section 6 is held by a court of competent jurisdiction to be unavailable to an Indemnified Party with respect to any loss, liability, claim, damage or expense referred to therein, then the Indemnifying Party, in lieu of indemnifying such Indemnified Party thereunder, shall contribute to the amount paid or payable by such Indemnified Party as a result of such loss, liability, claim, damage or expense in such proportion as is appropriate to reflect the relative fault of the Indemnifying Party on the one hand and of the Indemnified Party on the other in connection with the statements or omissions which resulted in such loss, liability, claim, damage or expense as well as any other relevant equitable considerations. The relative fault of the Indemnifying Party and of the Indemnified Party shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Indemnifying Party or by the Indemnified Party and the parties’ relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

7. Miscellaneous.

(a) Amendments and Waivers. This Agreement may be amended only by a writing signed by the Company and the Required Holders. The Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company shall have obtained the written consent to such amendment, action or omission to act, of the Required Holders. Notwithstanding the foregoing, this Agreement may not be amended or terminated and the observance of any term hereof may not be waived with respect to any Holder without the written consent of such Holder, unless such amendment, termination, or waiver applies to all Holders in the same fashion.

(b) Notices. All notices and other communications provided for or permitted hereunder shall be made as set forth in Section 5.3 of the Purchase Agreement.

(c) Assignments and Transfers by Holders. The provisions of this Agreement shall be binding upon and inure to the benefit of the Holders and their respective successors and assigns. A Holder may transfer or assign, in whole or from time to time in part, to one or more persons its rights hereunder in connection with the transfer of any shares of Preferred Stock or Registrable Shares by such Holder to such person, provided that such Holder complies with all laws applicable thereto and provides written notice of assignment to the Company promptly after such assignment is effected. Following any such transfer or assignment, such transferee or assignee shall be considered a "Holder" under this Agreement.

(d) Assignments and Transfers by the Company. This Agreement may not be assigned by the Company (whether by operation of law or otherwise) without the prior written consent of the Required Holders, provided, however, that in the event that the Company is a party to a merger, consolidation, share exchange or similar business combination transaction in which the Common Stock is converted into the equity securities of another Person, from and after the effective time of such transaction, such Person shall, by virtue of such transaction, be deemed to have assumed the obligations of the Company hereunder, the term "Company" shall be deemed to refer to such Person and the term "Registrable Shares" shall be deemed to include the securities received by the Holders in connection with such transaction unless such securities are otherwise freely tradable by the Holders after giving effect to such transaction.

( e ) Benefits of the Agreement. The terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective permitted successors and assigns of the parties. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

( f ) Counterparts; Electronic Transmission. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This Agreement may also be executed via facsimile or other electronic transmission, which shall be deemed an original.

(g) Titles and Subtitles. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

(h) Severability. Any provision of this Agreement that is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof but shall be interpreted as if it were written so as to be enforceable to the maximum extent permitted by applicable law, and any such prohibition or unenforceability in any jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction. To the extent permitted by applicable law, the parties hereby waive any provision of law which renders any provisions hereof prohibited or unenforceable in any respect.

( i ) Further Assurances. The parties shall execute and deliver all such further instruments and documents and take all such other actions as may reasonably be required to carry out the transactions contemplated hereby and to evidence the fulfillment of the agreements herein contained.

( j ) Entire Agreement. This Agreement is intended by the parties as a final expression of their agreement and intended to be a complete and exclusive statement of the agreement and understanding of the parties hereto in respect of the subject matter contained herein. This Agreement supersedes all prior agreements and understandings between the parties with respect to such subject matter. If any provision of this Agreement is found to conflict with the Purchase Agreement, the provisions of this Agreement shall prevail.

( k ) Governing Law. THIS AGREEMENT SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH, AND THE RIGHTS OF THE PARTIES SHALL BE GOVERNED BY, THE INTERNAL LAW OF THE STATE OF NEW YORK, EXCLUDING CHOICE-OF-LAW PRINCIPLES OF THE LAW OF SUCH STATE THAT WOULD PERMIT THE APPLICATION OF THE LAWS OF A JURISDICTION OTHER THAN SUCH STATE.

(l) Personal Jurisdiction.

( i ) The Company irrevocably submits to the non-exclusive jurisdiction of any New York State or federal court sitting in the Borough of Manhattan. The City of New York, over any suit, action or proceeding arising out of or relating to this Agreement or any of the agreements, documents or instruments delivered in connection herewith or therewith. To the fullest extent permitted by applicable law, the Company irrevocably waives and agrees not to assert, by way of motion, as a defense or otherwise, any claim that it is not subject to the jurisdiction of any such court, any objection that it may now or hereafter have to the laying of the venue of any such suit, action or proceeding brought in any such court and any claim that any such suit, action or proceeding brought in any such court has been brought in an inconvenient forum.

(ii) Nothing in this Section 7(l) shall affect the right of the Holders to serve process in any manner permitted by law, or limit any right that the Holders may have to bring proceedings against the Company in the courts of any appropriate jurisdiction or to enforce in any lawful manner a judgment obtained in one jurisdiction in any other jurisdiction.

(m) WAIVER OF JURY TRIAL. THE COMPANY AND EACH OF THE PURCHASERS EACH IRREVOCABLY WAIVES ALL RIGHT TO TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM (WHETHER BASED ON CONTRACT, TORT OR OTHERWISE) ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY OTHER AGREEMENT, DOCUMENT OR INSTRUMENT DELIVERED IN CONNECTION HEREWITH OR THEREWITH OR THE ACTIONS OF THE PURCHASERS IN THE NEGOTIATION, ADMINISTRATION, PERFORMANCE OR ENFORCEMENT HEREOF OR THEREOF.

(n) No Inconsistent Agreements. Neither the Company nor any of its subsidiaries has entered, as of the date hereof, nor shall the Company or any of its subsidiaries, on or after the date of this Agreement, enter into any agreement with respect to its securities, that would have the effect of impairing the rights granted to the Holders in this Agreement or otherwise conflicts with the provisions hereof. Neither the Company nor any of its subsidiaries has previously entered into any agreement granting any registration rights with respect to any of its securities to any Person that have not been satisfied in full.

( o ) Independent Nature of Holders' Obligations and Rights. The obligations of each Holder hereunder are several and not joint with the obligations of any other Holder hereunder, and no Holder shall be responsible in any way for the performance of the obligations of any other Holder hereunder. Nothing contained herein or in any other agreement or document delivered at any closing, and no action taken by any Holder pursuant hereto or thereto, shall be deemed to constitute the Holders as a partnership, an association, a joint venture or any other kind of group or entity, or create a presumption that the Holders are in any way acting in concert or as a group or entity with respect to such obligations or the transactions contemplated by this Agreement or any other matters, and the Company acknowledges that the Holders are not acting in concert or as a group, and the Company shall not assert any such claim, with respect to such obligations or transactions. Each Holder shall be entitled to protect and enforce its rights, including without limitation the rights arising out of this Agreement, and it shall not be necessary for any other Holder to be joined as an additional party in any proceeding for such purpose. The use of a single agreement with respect to the obligations of the Company contained was solely in the control of the Company, not the action or decision of any Holder, and was done solely for the convenience of the Company and not because it was required or requested to do so by any Holder. It is expressly understood and agreed that each provision contained in this Agreement is between the Company and a Holder, solely, and not between the Company and the Holders collectively and not between and among Holders.

*[Remainder of Page Intentionally Left Blank]*

IN WITNESS WHEREOF, the parties have executed this Agreement or caused their duly authorized officers to execute this Agreement as of the date first above written.

The Company:

SYNTHETIC BIOLOGICS, INC.

By: /s/ Jeffrey L. Riley

Name: Jeffrey L. Riley

Title: Chief Executive Officer

*[Company signature page to Registration Rights Agreement]*

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The Holder:

MSD CREDIT OPPORTUNITY MASTER FUND, L.P.

By: /s/ Marcello Liguori

Name: Marcello Liguori

Title: Managing Director

*[Holder signature page to Registration Rights Agreement]*

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### **Plan of Distribution**

The selling stockholders, which as used herein includes donees, pledgees, transferees or other successors-in-interest selling shares of common stock or interests in shares of common stock received after the date of this prospectus from a selling stockholder as a gift, pledge, partnership distribution or other transfer, may, from time to time, sell, transfer or otherwise dispose of any or all of their shares of common stock or interests in shares of common stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. These dispositions may be at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices.

The selling stockholders may use any one or more of the following methods when disposing of shares or interests therein:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
  - block trades in which the broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
  - purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
  - an exchange distribution in accordance with the rules of the applicable exchange;
  - privately negotiated transactions;
  - short sales effected after the date the registration statement of which this Prospectus is a part is declared effective by the Commission;
  - through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
  - broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
  - a combination of any such methods of sale; and
  - any other method permitted by applicable law.
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The selling stockholders may, from time to time, pledge or grant a security interest in some or all of the shares of common stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock, from time to time, under this prospectus, or under an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholders also may transfer the shares of common stock in other circumstances, in which case the transferees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

In connection with the sale of our common stock or interests therein, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The selling stockholders may also sell shares of our common stock short and deliver these securities to close out their short positions, or loan or pledge the common stock to broker-dealers that in turn may sell these securities. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The aggregate proceeds to the selling stockholders from the sale of the common stock offered by them will be the purchase price of the common stock less discounts or commissions, if any. Each of the selling stockholders reserves the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of common stock to be made directly or through agents. We will not receive any of the proceeds from this offering.

The selling stockholders also may resell all or a portion of the shares in open market transactions in reliance upon Rule 144 under the Securities Act of 1933, provided that they meet the criteria and conform to the requirements of that rule.

The selling stockholders and any underwriters, broker-dealers or agents that participate in the sale of the common stock or interests therein may be “underwriters” within the meaning of Section 2(11) of the Securities Act. Any discounts, commissions, concessions or profit they earn on any resale of the shares may be underwriting discounts and commissions under the Securities Act. Selling stockholders who are “underwriters” within the meaning of Section 2(11) of the Securities Act will be subject to the prospectus delivery requirements of the Securities Act.

To the extent required, the shares of our common stock to be sold, the names of the selling stockholders, the respective purchase prices and public offering prices, the names of any agents, dealer or underwriter, any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes this prospectus.

In order to comply with the securities laws of some states, if applicable, the common stock may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states the common stock may not be sold unless it has been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

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We have advised the selling stockholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares in the market and to the activities of the selling stockholders and their affiliates. In addition, to the extent applicable we will make copies of this prospectus (as it may be supplemented or amended from time to time) available to the selling stockholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling stockholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

We have agreed to indemnify the selling stockholders against liabilities, including liabilities under the Securities Act and state securities laws, relating to the registration of the shares offered by this prospectus.

We have agreed with the selling stockholders to keep the registration statement of which this prospectus constitutes a part effective until the earlier of (1) such time as all of the shares covered by this prospectus have been disposed of pursuant to and in accordance with the registration statement or (2) the date on which all of the shares may be sold without restriction pursuant to Rule 144 of the Securities Act.

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**SYNTHETIC BIOLOGICS, INC.**

**SHARE PURCHASE AGREEMENT**

This Share Purchase Agreement (this "Agreement") is dated as of September 11, 2017, among Synthetic Biologics, Inc., a Nevada corporation (the "Company"), and each purchaser identified on the signature pages hereto (each, including its successors and assigns, a "Purchaser" and collectively the "Purchasers").

**RECITALS**

A. The Company and each Purchaser is executing and delivering this Agreement in reliance upon the exemption from securities registration afforded by Section 4(a)(2) of the Securities Act, and Rule 506 of Regulation D ("Regulation D") as promulgated by the United States Securities and Exchange Commission (the "Commission") under the Securities Act.

B. Each Purchaser, severally and not jointly, wishes to purchase, and the Company wishes to sell, upon the terms and conditions stated in this Agreement, that aggregate number of shares of Preferred Stock set forth such Purchaser's name on the signature page of this Agreement as provided herein.

C. Contemporaneously with the execution and delivery of this Agreement, the parties hereto are executing and delivering the Registration Rights Agreement, pursuant to which, among other things, the Company will agree to provide certain registration rights with respect to the Shares under the Securities Act and the rules and regulations promulgated thereunder and applicable state securities laws.

**AGREEMENT**

NOW, THEREFORE, IN CONSIDERATION of the mutual covenants contained in this Agreement, and for other good and valuable consideration the receipt and adequacy of which are hereby acknowledged, the Company and each Purchaser agree as follows:

**ARTICLE I**

**DEFINITIONS**

1 . 1 Definitions. In addition to the terms defined elsewhere in this Agreement, for all purposes of this Agreement, the following terms have the meanings set forth in this Section 1.1:

"Affiliate" means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person as such terms are used in and construed under Rule 144 under the Securities Act. With respect to a Purchaser, any investment fund or managed account that is managed on a discretionary basis by the same investment manager as such Purchaser will be deemed to be an Affiliate of such Purchaser.

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“Business Day” means any day except Saturday, Sunday, any day which shall be a federal legal holiday in the United States or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.

“Certificate of Designation” means the Certificate of Designation to be filed prior to the Closing by the Company with the Secretary of State of Nevada in the form of Exhibit A attached hereto.

“Closing” means the closing of the purchase and sale of the Shares pursuant to Section 2.1.

“Closing Date” means the date and time of the Closing.

“Commission” means the Securities and Exchange Commission.

“Common Stock” means the Common Stock of the Company, par value \$0.001 per share, and any other class of securities into which such securities may hereafter be reclassified or changed into.

“Common Stock Equivalents” means any securities of the Company or the Subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, rights, options, warrants or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

“Company Counsel” means Gracin & Marlow, LLP, with offices located at the Chrysler Building, 405 Lexington Avenue, New York, New York, 10174.

“Effective Date” means the date that the initial Registration Statement filed by the Company pursuant to the Registration Rights Agreement is first declared effective by the Commission.

“Exchange Act” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

“GAAP” shall have the meaning ascribed to such term in Section 3.1(e).

“Intellectual Property” shall have the meaning ascribed to such term in Section 3.1(o).

“Legend Removal Date” shall have the meaning ascribed to such term in Section 4.1(d).

“Liens” means a lien, charge, security interest, encumbrance, right of first refusal, preemptive right or other restriction.

“Material Adverse Effect” shall have the meaning assigned to such term in Section 3.1(a).

“Nevada Counsel” means Parson Behle and Latimer, with offices at 50 West Liberty Street, Suite 750, Reno, Nevada 89501.

“Per Share Purchase Price” equals \$100.

“Person” means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

“Preferred Stock” means the shares of Company Series A convertible preferred stock to be issued to the Purchasers.

“Proceeding” means an action, claim, suit, investigation or proceeding (including, without limitation, an investigation or partial proceeding, such as a deposition), whether commenced or threatened.

“Purchaser Party” shall have the meaning ascribed to such term in Section 4.5.

“Registration Rights Agreement” means the Registration Rights Agreement, dated the date hereof, among the Company and the Purchasers, in the form of **Exhibit B** attached hereto.

“Registration Statement” means a registration statement meeting the requirements set forth in the Registration Rights Agreement and covering the resale by the Purchasers of the Underlying Shares.

“Rule 144” means Rule 144 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same effect as such Rule.

“SEC Documents” shall have the meaning ascribed to such term in Section 3.1(e).

“Securities Act” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

“Shares” means the shares of Preferred Stock issued or issuable to each Purchaser pursuant to this Agreement.

“Short Sales” include, without limitation, all “short sales” as defined in Rule 200 promulgated under Regulation SHO under the Exchange Act, whether or not against the box, and all types of direct and indirect stock pledges, forward sale contracts, options, puts, calls, short sales, swaps, “put equivalent positions” (as defined in Rule 16a-1(h) under the Exchange Act) and similar arrangements (including on a total return basis), and sales and other transactions through non-U.S. broker dealers or foreign regulated brokers.

“Subscription Amount” means, as to each Purchaser, the aggregate amount to be paid for the Shares purchased hereunder as specified below such Purchaser’s name on the signature page of this Agreement and next to the heading “Subscription Amount,” in United States dollars and in immediately available funds.

“Subsidiary” means any subsidiary of the Company as set forth in the SEC Documents.

“Trading Day” means a day on which the Common Stock is traded on a Trading Market.

“Trading Market” means the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE American LLC, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, the New York Stock Exchange or the OTC Bulletin Board.

“Transaction Documents” means this Agreement, the Registration Rights Agreement and any other documents or agreements executed in connection with the transactions contemplated hereunder.

“Transfer Agent” means Corporate Stock Transfer, Inc., and any successor transfer agent of the Company.

“Underlying Shares” means the shares of Common Stock issued and issuable upon conversion of the Preferred Stock.

## ARTICLE II

### PURCHASE AND SALE

2.1 Closing. On the Closing Date, upon the terms and subject to the conditions set forth herein, substantially concurrent with the execution and delivery of this Agreement by the parties hereto, the Company agrees to sell, and each Purchaser agrees to purchase, the number of Shares of Preferred Stock set forth on the signature page hereto executed by such Purchaser. The aggregate number of Shares of Preferred Stock sold hereunder shall be 120,000. Each Purchaser shall deliver to the Company, via wire transfer immediately available funds equal to the Subscription Amount as set forth on the signature page hereto executed by such Purchaser and the Company shall deliver to such Purchaser the number of Shares of Preferred Stock set forth on the signature page hereto executed by such Purchaser, and the Company and such Purchaser shall deliver the other items set forth in Section 2.2. Upon satisfaction of the covenants and conditions set forth in Sections 2.2 and 2.3, the Closing shall occur at the offices of Company Counsel or such other location as the parties shall mutually agree.

#### 2.2 Deliveries.

(a) On or prior to the Closing Date, the Company shall deliver or cause to be delivered to each Purchaser the following:

- (i) this Agreement duly executed by the Company;
- (ii) a legal opinion of Company Counsel and Nevada Counsel, substantially in the form of Exhibit C attached hereto;

(iii) an irrevocable letter of instruction to the transfer agent to either issue a certificate evidencing a number of Shares of Preferred Stock equal to such Purchaser's Shares of Preferred Stock as set forth on the signature page hereto executed by such Purchaser and registered in the name of such Purchaser or provide evidence of book entry of the number of Shares of Preferred Stock equal to such Purchaser's Shares of Preferred Stock as set forth on the signature page hereto executed by such Purchaser and evidence of the filing and acceptance of the Certificate of Designation from the Secretary of State of Nevada; and

(iv) the Registration Rights Agreement duly executed by the Company.

(b) On or prior to the Closing Date, each Purchaser shall deliver or cause to be delivered to the Company the following:

(i) this Agreement duly executed by such Purchaser;

(ii) the Subscription Amount as set forth on the signature page hereto executed by such Purchaser by wire transfer to the account specified by the Company; and

(iii) the Registration Rights Agreement duly executed by such Purchaser.

### 2.3 Closing Conditions.

(a) The obligations of the Company hereunder in connection with the Closing are subject to the following conditions being met or waived by the Company:

(i) the accuracy in all material respects when made and on the Closing Date of the representations and warranties of the Purchasers contained herein (except with respect to representations and warranties which relate to a specific date, in which case such representations and warranties shall continue to be materially accurate as of such date);

(ii) all obligations, covenants and agreements of the Purchasers required to be performed at or prior to the Closing Date shall have been performed;

(iii) the delivery by the Purchasers of the items set forth in Section 2.2(b) of this Agreement;

(iv) no statute, rule, regulation, executive order, decree, ruling or injunction shall have been enacted, entered, promulgated or endorsed by any court or governmental authority of competent jurisdiction that prohibits the consummation of any of the transactions contemplated by the Transaction Documents; and

(v) the Company shall have obtained in a timely fashion any and all consents, permits, approvals, registrations and waivers necessary for consummation of the purchase and sale of the Shares, all of which shall be and remain so long as necessary in full force and effect.

(b) The respective obligations of the Purchasers hereunder in connection with the Closing are subject to the following conditions being met or waived by each Purchaser as to itself:

(i) the accuracy in all material respects on the Closing Date of the representations and warranties of the Company contained herein (except with respect to representations and warranties which relate to a specific date, in which case such representations and warranties shall continue to be materially accurate as of such date);

(ii) all obligations, covenants and agreements of the Company required to be performed at or prior to the Closing Date shall have been performed;

(iii) the delivery by the Company of the items set forth in Section 2.2(a) of this Agreement and a certificate, dated as of the Closing Date and signed by its Chief Executive Officer or its Chief Financial Officer, certifying to the fulfillment of the conditions specified in Sections 2.3(b)(i) and (ii);

(iv) on the Closing Date, trading in the Common Stock shall not have been suspended by the Commission or the Company's principal Trading Market (except for any suspension of trading of limited duration agreed to by the Company, which suspension shall be terminated prior to the Closing Date), and, at any time prior to the Closing Date, trading in securities generally as reported by Bloomberg L.P. shall not have been suspended or limited, or minimum prices shall not have been established on securities whose trades are reported by such service, or on any Trading Market, nor shall a banking moratorium have been declared either by the United States or New York State authorities;

(v) no statute, rule, regulation, executive order, decree, ruling or injunction shall have been enacted, entered, promulgated or endorsed by any court or governmental authority of competent jurisdiction that prohibits the consummation of any of the transactions contemplated by the Transaction Documents; and

(vi) the Company shall have obtained in a timely fashion any and all consents, permits, approvals, registrations and waivers necessary for consummation of the purchase and sale of the Shares, all of which shall be and remain so long as necessary in full force and effect.

### ARTICLE III

#### REPRESENTATIONS AND WARRANTIES

3 . 1 Representations and Warranties of the Company. Except as set forth in the SEC Documents which qualify any representation or otherwise made herein to the extent of the disclosure contained in the SEC Documents, the Company hereby makes the following representations and warranties to each Purchaser as of the Closing Date:

(a) Organization, Good Standing and Power. The Company is a corporation duly incorporated, validly existing and in good standing under the laws of the State of Nevada and has the requisite corporate power to own, lease and operate its properties and assets and to conduct its business as it is now being conducted and as described in the reports filed by the Company with the Commission pursuant to the reporting requirements of the Exchange Act, since the end of its most recently completed fiscal year through the date hereof, including, without limitation, its most recent report on Form 10-Q. The Company does not have any material subsidiaries other than those set forth on Exhibit 21 to the Annual Report on Form 10-K for the year ended December 31, 2016. The Company is qualified to do business as a foreign corporation and is in good standing in every jurisdiction in which the nature of the business conducted or property owned by it makes such qualification necessary, except for any jurisdiction(s) (alone or in the aggregate) in which the failure to be so qualified will not have a Material Adverse Effect. For the purposes of this Agreement, “**Material Adverse Effect**” means any effect on the business, operations, properties or financial condition of the Company that is material and adverse to the Company, taken as a whole, and any condition, circumstance or situation that would prohibit the Company from entering into and performing any of its obligations hereunder.

( b ) Authorization; Enforcement. The Company has the requisite corporate power and authority to enter into and perform the Transaction Documents and to issue the Shares in accordance with the terms hereof. The execution, delivery and performance of the Transaction Documents by the Company and the consummation by it of the transactions contemplated hereby have been duly and validly authorized by all necessary corporate action, and no further consent or authorization of the Company, its board of directors or stockholders is required. When executed and delivered by the Company, the Transaction Documents shall constitute a valid and binding obligation of the Company enforceable against the Company in accordance with its terms, except as such enforceability may be limited by applicable bankruptcy, reorganization, moratorium, liquidation, conservatorship, receivership or similar laws relating to, or affecting generally the enforcement of, creditor’s rights and remedies or by other equitable principles of general application.

( c ) Issuance of Shares. The Shares to be issued and sold hereunder have been duly authorized by all necessary corporate action and, when issued in accordance with the terms hereof, will be validly issued, fully paid and nonassessable. In addition, the Shares will be free and clear of all liens, claims, charges, security interests or agreements, pledges, assignments, covenants, restrictions or other encumbrances created by, or imposed by, the Company (collectively, “Encumbrances”) and rights of refusal of any kind imposed by the Company (other than restrictions on transfer under applicable securities laws) and the holder of such Shares shall be entitled to all rights accorded to a holder of Common Stock. As of the date hereof, 128,460,683 shares of the Company’s Common Stock are issued and outstanding and no shares of preferred stock are outstanding. The Company has options outstanding to acquire 57,341,642 shares of Common Stock and warrants outstanding to acquire 11,398,111 shares of Common Stock.

( d ) No Conflicts: Governmental Approvals. The execution, delivery and performance of the Transaction Documents by the Company and the consummation by the Company of the transactions contemplated hereby do not and will not: (i) violate any provision of the Company's Articles of Incorporation or Bylaws, each as amended to date; (ii) conflict with, or constitute a default (or an event which with notice or lapse of time or both would become a default) under, or give to others any rights of termination, amendment, acceleration or cancellation of, any agreement, mortgage, deed of trust, indenture, note, bond, license, lease agreement, instrument or obligation to which the Company is a party or by which the Company's properties or assets are bound; or (iii) result in a violation of any federal, state, local or foreign statute, rule, regulation, order, judgment or decree (including federal and state securities laws and regulations) applicable to the Company or by which any property or asset of the Company is bound or affected, except for such conflicts, defaults, terminations, amendments, acceleration, cancellations and violations as would not, individually or in the aggregate, have a Material Adverse Effect. Except for approval of the NYSE American, LLC of the issuance of the Underlying Shares, which such approval has been obtained by the Company on or before the date hereof, the Company is not required under federal, state, foreign or local law, rule or regulation to obtain any consent, authorization or order of, or make any filing or registration with, any court or governmental agency in order for it to execute, deliver or perform any of its obligations under this Agreement or issue and sell the Shares in accordance with the terms hereof (other than any filings, consents and approvals which may be required to be made by the Company under applicable state and federal securities laws, rules or regulations prior to or subsequent to the Closing).

( e ) Commission Documents, Financial Statements. The Common Stock of the Company is registered pursuant to Section 12(b) of the Exchange Act. During the year preceding this Agreement, the Company has timely filed all reports, schedules, forms, statements and other documents required to be filed by it with the Commission pursuant to the reporting requirements of the Exchange Act (the foregoing materials, including the exhibits thereto and documents incorporated by reference therein being collectively referred to as the "SEC Documents"). At the times of their respective filing, all such reports, schedules, forms, statements and other documents complied in all material respects with the requirements of the Exchange Act and the rules and regulations of the Commission promulgated thereunder. At the times of their respective filings, such reports, schedules, forms, statements and other documents did not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading. As of their respective dates, the financial statements of the Company included in the SEC Documents complied in all material respects with applicable accounting requirements and the published rules and regulations of the Commission or other applicable rules and regulations with respect thereto. Such financial statements have been prepared in accordance with United States generally accepted accounting principles applied on a consistent basis ("GAAP") during the periods involved (except (i) as may be otherwise indicated in such financial statements or the notes thereto or (ii) in the case of unaudited interim statements, to the extent they may not include footnotes or may be condensed or summary statements), and fairly present in all material respects the consolidated financial position of the Company as of the dates thereof and the results of operations and cash flows for the periods then ended (subject, in the case of unaudited statements, to normal year-end audit adjustments).

( f ) Accountants. BDO USA LLP whose report on the financial statements of the Company is filed with the Commission in the Company's Annual Report on Form 10-K for the year ended December 31, 2016, were, at the time such report was issued, independent registered public accountants as required by the Securities Act.

( g ) Internal Controls. The Company has established and maintains a system of internal accounting controls sufficient to provide reasonable assurances that: (i) transactions are executed in accordance with management's general or specific authorization; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles in the United States and to maintain accountability for assets; (iii) access to assets is permitted only in accordance with management's general or specific authorization; and (iv) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences.

( h ) Disclosure Controls. The Company has established and maintains disclosure controls and procedures (as such term is defined in Rules 13a-15 and 15d-15 under the Exchange Act). Since the date of the most recent evaluation of such disclosure controls and procedures, there have been no significant changes in internal controls or in other factors that could significantly affect internal controls, including any corrective actions with regard to significant deficiencies and material weaknesses. The Company is in compliance in all material respects with all provisions currently in effect and applicable to the Company of the Sarbanes-Oxley Act of 2002, and all rules and regulations promulgated thereunder or implementing the provisions thereof.

( i ) No Material Adverse Change. Except as disclosed in the SEC Documents, since June 30, 2017, the Company has not (i) experienced or suffered any Material Adverse Effect; (ii) incurred any material liabilities, obligations, claims or losses (whether liquidated or unliquidated, secured or unsecured, absolute, accrued, contingent or otherwise) other than those incurred in the ordinary course of the Company's business; or (iii) declared, made or paid any dividend or distribution of any kind on its capital stock.

( j ) No Undisclosed Events or Circumstances. Except as disclosed in the SEC Documents, and except for the consummation of the transactions contemplated herein, since June 30, 2017, to the Company's knowledge, no event or circumstance has occurred or exists with respect to the Company or its businesses, properties, prospects, operations or financial condition, which, under applicable law, rule or regulation, requires public disclosure or announcement by the Company but which has not been so publicly announced or disclosed.

( k ) Litigation. No action, suit, proceeding or investigation is currently pending or, to the knowledge of the Company, has been threatened in writing against the Company that: (i) concerns or questions the validity of this Agreement; (ii) concerns or questions the right of the Company to enter into this Agreement; or (iii) is reasonably likely to have a Material Adverse Effect. The Company is neither a party to nor subject to the provisions of any material order, writ, injunction, judgment or decree of any court or government agency or instrumentality. There is no action, suit, proceeding or investigation by the Company currently pending or that the Company intends to initiate that would have a Material Adverse Effect.

(l) Compliance. Except for defaults or violations which are not reasonably likely to have a Material Adverse Effect, the Company is not (i) in default under or in violation of (and no event has occurred that has not been waived that, with notice or lapse of time or both, would result in a default by the Company under), nor has the Company received notice of a claim that it is in default under or that it is in violation of, any indenture, loan or credit agreement or any other agreement or instrument to which it is a party or by which it or any of its properties is bound (whether or not such default or violation has been waived); (ii) is in violation of any order of any court, arbitrator or governmental body; or (iii) is or has been in violation of any statute, rule or regulation of any governmental authority, including without limitation all foreign, federal, state and local laws, applicable to its business.

(m) Intellectual Property.

(i) To the best of its knowledge, the Company has entered into agreements with each of its current and former officers, employees and consultants involved in research and development work, including development of the Company's products and technology providing the Company, to the extent permitted by law, with title and ownership to patents, patent applications, trade secrets and inventions conceived, developed, reduced to practice by such person, solely or jointly with other of such persons, during the period of employment by the Company except where the failure to have entered into such an agreement would not have a Material Adverse Effect. The Company is not aware that any of its employees or consultants is in material violation thereof.

(ii) To the Company's knowledge, the Company owns or possesses adequate rights to use all trademarks, service marks, trade names, domain names, copyrights, patents, patent applications, inventions, know how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems or procedures), and other intellectual property rights ("Intellectual Property") as are necessary for the conduct of its business as described in the Commission Documents. Except as described in the SEC Documents: (1) to the knowledge of the Company, there is no infringement, misappropriation or violation by third parties of any such Intellectual Property; (2) there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding by others against the Company challenging the Company's rights in or to any such Intellectual Property and the Company has not received any written notice of a claim by others against the Company challenging the Company's rights in or to any such Intellectual Property; (3) the Intellectual Property owned by the Company and, to the knowledge of the Company, the Intellectual Property licensed to the Company has not been adjudged invalid or unenforceable by a court of competent jurisdiction or applicable government agency, in whole or in part, and there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding by others challenging the validity or scope of any such Intellectual Property and Company has not received any written notice of a claim by others challenging the validity or scope of any such Intellectual Property; (4) there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim by others against the Company that the Company infringes, misappropriates or otherwise violates any Intellectual Property or other proprietary rights of others, and the Company has not received any written notice of such claim; and (5) to the Company's knowledge, no employee of the Company is the subject of any claim or proceeding involving a violation of any term of any employment contract, patent disclosure agreement, invention assignment agreement, non-competition agreement, non-solicitation agreement, nondisclosure agreement or any restrictive covenant to or with a former employer where the basis of such violation relates to such employee's employment with the Company or actions undertaken by the employee while employed with the Company, in each of (1) through (5), for any instances which would not, individually or in the aggregate, result in a Material Adverse Effect.

(n) FDA Compliance.

(i) Except as described in the SEC Documents, the Company: (i) is in material compliance with all statutes, rules or regulations applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, marketing, labeling, promotion, sale, offer for sale, storage, import, export or disposal of any product that is under development, manufactured or distributed by the Company (“Applicable Laws”); (ii) has not received any FDA Form 483, notice of adverse finding, warning letter, untitled letter or other correspondence or notice from the U.S. Food and Drug Administration (the “FDA”) or any other federal, state, local or foreign governmental or regulatory authority alleging or asserting material noncompliance with any Applicable Laws or any licenses, certificates, approvals, clearances, authorizations, permits and supplements or amendments thereto required by any such Applicable Laws (“Authorizations”), which would not, individually or in the aggregate, result in a Material Adverse Effect; (iii) possesses all material Authorizations necessary for the operation of its business as described in the SEC Documents and such Authorizations are valid and in full force and effect and the Company is not in material violation of any term of any such Authorizations; and (iv) since January 1, 2017: (A) has not received notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from the FDA or any other federal, state, local or foreign governmental or regulatory authority or third party alleging that any product operation or activity is in material violation of any Applicable Laws or Authorizations and has no knowledge that the FDA or any other federal, state, local or foreign governmental or regulatory authority or third party is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding; (B) has not received notice that the FDA or any other federal, state, local or foreign governmental or regulatory authority has taken, is taking or intends to take action to limit, suspend, modify or revoke any material Authorizations and has no knowledge that the FDA or any other federal, state, local or foreign governmental or regulatory authority is considering such action; (C) has filed, obtained, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable Laws or Authorizations and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were materially complete and correct on the date filed (or were corrected or supplemented by a subsequent submission); and (D) has not, either voluntarily or involuntarily, initiated, conducted, or issued or caused to be initiated, conducted or issued, any recall, market withdrawal or replacement, safety alert, post sale warning, “dear doctor” letter, or other notice or action relating to the alleged lack of safety or efficacy of any product or any alleged product defect or violation and, to the Company’s knowledge, no third party has initiated, conducted or intends to initiate any such notice or action.

(o) Since January 1, 2017, and except to the extent disclosed in the SEC Documents, the Company has not received any notices or correspondence from the FDA or any other federal, state, local or foreign governmental or regulatory authority requiring the termination, suspension or material modification of any studies, tests or preclinical or clinical trials conducted by or on behalf of the Company.

(p) General Healthcare Regulatory Compliance.

(i) As used in this subsection:

1 . “Governmental Entity” means any national, federal, state, county, municipal, local or foreign government, or any political subdivision, court, body, agency or regulatory authority thereof, and any Person exercising executive, legislative, judicial, regulatory, taxing or administrative functions of or pertaining to any of the foregoing.

2 . “Law” means any federal, state, local, national or foreign law, statute, code, ordinance, rule, regulation, order, judgment, writ, stipulation, award, injunction, decree or arbitration award or finding.

(ii) The Company has not committed any act, made any statement or failed to make any statement that would reasonably be expected to provide a basis for the FDA or any other Governmental Entity to invoke its policy with respect to “Fraud, Untrue Statements of Material Facts, Bribery, and Illegal Gratuities”, or similar policies, set forth in any applicable Laws. Neither the Company, nor, to the knowledge of the Company, any of its officers, key employees or agents has been convicted of any crime or engaged in any conduct that has resulted, or would reasonably be expected to result, in debarment under applicable Law, including, without limitation, 21 U.S.C. Section 335a. No claims, actions, proceedings or investigations that would reasonably be expected to result in such a material debarment or exclusion are pending, or to the knowledge of the Company, threatened, against the Company or any of its respective officers, employees or agents.

(iii) Each of the Company and, to its knowledge, its directors, officers, employees, and agents (while acting in such capacity) is, and at all times has been, in material compliance with all health care Laws applicable to the Company or by which any of its properties, businesses, products or other assets is bound or affected, including, without limitation, the federal Anti-kickback Statute (42 U.S.C. § 1320a-7b(b)), the Anti-Inducement Law (42 U.S.C. § 1320a-7a(a)(5)), the civil False Claims Act (31 U.S.C. §§ 3729 et seq.), the administrative False Claims Law (42 U.S.C. § 1320a-7b(a)), the Health Insurance Portability and Accountability Act of 1996 (42 U.S.C. § 1320d et seq.), the exclusion laws (42 U.S.C. § 1320a-7), the Food Drug and Cosmetic Act (21 U.S.C. §§ 301 et seq.) (collectively, “Health Care Laws”). The Company has not received any notification, correspondence or any other written or oral communication from any Governmental Entity, including, without limitation, the FDA, the Centers for Medicare and Medicaid Services, and the Department of Health and Human Services Office of Inspector General, of potential or actual material non-compliance by, or liability of, the Company under any Health Care Laws.

(iv) The Company is not a party to any corporate integrity agreements, monitoring agreements, consent decrees, settlement orders, or similar agreements with or imposed by any Governmental Entity.

( q ) Application of Takeover Protections. The issuance of the Shares hereunder and the Purchasers’ ownership thereof is not prohibited by the business combination statutes of the state of Nevada, including without limitation Nevada Revised Statutes Section 78.411 et seq. The Company has not adopted any stockholder rights plan, “poison pill” or similar arrangement that would trigger any right, obligation or event as a result of the issuance of such Shares and the Purchasers’ ownership of such Shares and there are no similar anti-takeover provisions under the Company’s charter documents.

( r ) Listing and Maintenance Requirements. The Company is in compliance with the requirements of the Trading Market for continued trading of the Common Stock pursuant thereto. The issuance and sale of the Shares hereunder does not contravene the rules and regulations of the Trading Market.

( s ) Private Placement. Neither the Company nor its Affiliates, nor any Person acting on its or their behalf: (i) has engaged in any form of general solicitation or general advertising (within the meaning of Regulation D under the Securities Act) in connection with the offer or sale of the Shares hereunder, (ii) has, directly or indirectly, made any offers or sales of any security or solicited any offers to buy any security, under any circumstances that would require registration of the sale and issuance by the Company of the Shares under the Securities Act; or (iii) has issued any shares of Common Stock or shares of any series of preferred stock or other securities or instruments convertible into, exchangeable for or otherwise entitling the holder thereof to acquire shares of Common Stock which would be integrated with the sale of the Shares to Purchasers for purposes of the Securities Act or of any applicable stockholder approval provisions, including, without limitation, under the rules and regulations of any exchange or automated quotation system on which any of the securities of the Company are listed or designated, nor will the Company or any of its subsidiaries or affiliates take any action or steps that would require registration of any of the Shares under the Securities Act or cause the offering of the Shares to be integrated with other offerings. Assuming the accuracy of the representations and warranties of Purchasers, the offer and issuance of the Shares by the Company to Purchasers pursuant to this Agreement will be exempt from the registration requirements of the Securities Act.

( t ) No Manipulation of Stock. The Company has not taken, and has no plans to take, in violation of applicable law, any action outside the ordinary course of business designed to, or that might reasonably be expected to, cause or result in unlawful manipulation of the price of the Common Stock.

( u ) Brokers. Neither the Company nor any of the officers, directors or employees of the Company has employed any broker or finder in connection with the transaction contemplated by this Agreement. The Company shall indemnify Purchasers from and against any broker's, finder's or agent's fees for which the Company is responsible.

( v ) Solvency. Based on the financial condition of the Company as of the Closing Date, after giving effect to the receipt by the Company of the proceeds from the sale of the Shares hereunder, the fair saleable value of the Company's assets exceeds the amount that will be required to be paid on or in respect of the Company's existing debts and other liabilities (including known contingent liabilities) as they mature. Assuming the Closing occurs, the Company has no knowledge of any facts or circumstances which lead it to believe that it will file for reorganization or liquidation under the bankruptcy or reorganization laws of any jurisdiction within one year from the Closing Date.

( w ) Foreign Corrupt Practices. Neither the Company, nor to the knowledge of the Company, any agent or other person acting on behalf of the Company, has (i) directly or indirectly, used any funds for unlawful contributions, gifts, entertainment or other unlawful expenses related to foreign or domestic political activity; (ii) made any unlawful payment to foreign or domestic government officials or employees or to any foreign or domestic political parties or campaigns from corporate funds; (iii) failed to disclose fully any contribution made by the Company (or made by any person acting on its behalf of which the Company is aware) which is in violation of law; or (iv) violated in any material respect any provision of the Foreign Corrupt Practices Act of 1977, as amended.

3 . 2 Representations and Warranties of the Purchasers. Each Purchaser, for itself and for no other Purchaser, hereby represents and warrants to the Company as follows (as of the Closing Date, unless otherwise noted below):

( a ) Authority. The execution, delivery and performance by such Purchaser of the transactions contemplated by this Agreement have been duly authorized by all necessary corporate or similar action on the part of such Purchaser. Each Transaction Document to which it is a party has been duly executed by such Purchaser, and when delivered by such Purchaser in accordance with the terms hereof, will constitute the valid and legally binding obligation of such Purchaser, enforceable against it in accordance with its terms, except (i) as limited by general equitable principles and applicable bankruptcy, insolvency, reorganization, moratorium and other laws of general application affecting enforcement of creditors' rights generally; (ii) as limited by laws relating to the availability of specific performance, injunctive relief or other equitable remedies; and (iii) insofar as indemnification and contribution provisions may be limited by applicable law.

( b ) Own Account. Such Purchaser understands that the Shares are "restricted securities" and have not been registered under the Securities Act or any applicable state securities law and is acquiring the Shares as principal for its own account and not with a view to or for distributing or reselling such Shares or any part thereof in violation of the Securities Act or any applicable state securities law, has no present intention of distributing any of such Shares in violation of the Securities Act or any applicable state securities law and has no direct or indirect arrangement or understandings with any other persons to distribute or regarding the distribution of such Shares (this representation and warranty not limiting such Purchaser's right to sell the Shares pursuant to the Registration Statement or otherwise in compliance with applicable federal and state securities laws) in violation of the Securities Act or any applicable state securities law. Such Purchaser is acquiring the Shares hereunder in the ordinary course of its business. Such Purchaser understands that it may not be able to sell any of the Shares without prior registration under the Securities Act or the existence of an exemption from such registration requirement.

( c ) No Conflicts. The execution, delivery and performance by such Purchaser of this Agreement and the Registration Rights Agreement and the consummation by such Purchaser of the transactions contemplated hereby and thereby will not (i) result in a violation of the organizational documents of such Purchaser; (ii) conflict with, or constitute a default (or an event which with notice or lapse of time or both would become a default) under, or give to others any rights of termination, amendment, acceleration or cancellation of, any agreement, indenture or instrument to which such Purchaser is a party; or (iii) result in a violation of any law, rule, regulation, order, judgment or decree (including federal and state securities laws) applicable to such Purchaser, except in the case of clauses (ii) and (iii) above, for such conflicts, defaults, rights or violations which would not, individually or in the aggregate, reasonably be expected to have a material adverse effect on the ability of such Purchaser to perform its obligations hereunder.

( d ) Purchaser Status. At the time such Purchaser was offered the Shares, it was, and at the date hereof is, an “accredited investor” as defined in Rule 501 under the Securities Act. Investor is not a registered broker dealer registered under Section 15(a) of the Exchange Act, or a member of the Financial Industry Regulatory Authority Inc. (“FINRA”), or an entity engaged in the business of being a broker-dealer. The Purchaser is not subject to a bad actor disqualification under Rule 506(d) of the Securities Act.

( e ) Experience of Such Purchaser. Such Purchaser, either alone or together with its representatives, has such knowledge, sophistication and experience in business and financial matters so as to be capable of evaluating the merits and risks of the prospective investment in the Shares, and has so evaluated the merits and risks of such investment. Such Purchaser is able to bear the economic risk of an investment in the Shares and, at the present time, is able to afford a complete loss of such investment. Such Purchaser acknowledges that it has not received any legal or tax advice from the Company or any of its representatives with respect the transactions contemplated hereby.

( f ) General Solicitation. Such Purchaser is not purchasing the Shares as a result of any advertisement, article, notice or other communication regarding the Shares published in any newspaper, magazine or similar media or broadcast over television or radio or presented at any seminar or any other general solicitation or general advertisement.

( g ) Access to Information. Such Purchaser acknowledges that it has had the opportunity to review any Company information and business updates requested by Purchaser and has been afforded (i) the opportunity to ask such questions as it has deemed necessary of, and to receive answers from, representatives of the Company concerning the terms and conditions of the offering of the Shares and the merits and risks of investing in the Shares and; (ii) access to information about the Company and its financial condition, results of operations, business, properties, management and prospects sufficient to enable it to evaluate its investment; and (iii) the opportunity to obtain such additional information that the Company possesses or can acquire without unreasonable effort or expense that is necessary to make an informed investment decision with respect to the investment. Such Purchaser has sought such accounting, legal and tax advice as it has considered necessary to make an informed decision with respect to its acquisition of the Shares.

( h ) Certain Trading Activities. As of the date hereof, other than with respect to the transactions contemplated herein, since the time that such Purchaser was first contacted by the Company or any other Person regarding the transactions contemplated hereby, neither the Purchaser nor any Affiliate of such Purchaser which (i) had knowledge of the transactions contemplated hereby, (ii) has or shares discretion relating to such Purchaser's investments or trading or information concerning such Purchaser's investments, including in respect of the Shares, and (iii) is subject to such Purchaser's review or input concerning such Affiliate's investments or trading (collectively, "Trading Affiliates") has directly or indirectly, nor has any Person acting on behalf of or pursuant to any understanding with such Purchaser or Trading Affiliate, effected or agreed to effect any purchases or sales of the securities of the Company (including, without limitation, any Short Sales involving the Company's securities). Notwithstanding the foregoing, in the case of a Purchaser and/or Trading Affiliate that is, individually or collectively, a multi-managed investment bank or vehicle whereby separate portfolio managers manage separate portions of such Purchaser's or Trading Affiliate's assets and the portfolio managers have no direct knowledge of the investment decisions made by the portfolio managers managing other portions of such Purchaser's or Trading Affiliate's assets, the representation set forth above shall apply only with respect to the portion of assets managed by the portfolio manager that have knowledge about the financing transaction contemplated by this Agreement. Other than to other Persons party to this Agreement, their affiliates and each of their respective professional advisors, such Purchaser maintained the confidentiality of all non-public information disclosed to it in connection with the transactions contemplated hereby (including the existence and terms of such transactions) at all times prior to the issuance of the Press Release (as defined below).

( i ) Brokers and Finders. No Person will have, as a result of the transactions contemplated by this Agreement, any valid right, interest or claim against or upon the Company or any Purchaser for any commission, fee or other compensation pursuant to any agreement, arrangement or understanding entered into by or on behalf of the Purchaser.

( j ) Independent Investment Decision. Such Purchaser has independently evaluated the merits of its decision to purchase Shares pursuant to the Transaction Documents, and such Purchaser confirms that it has not relied on the advice of any other Purchaser's business and/or legal counsel in making such decision. Such Purchaser understands that nothing in this Agreement or any other materials presented by or on behalf of the Company to the Purchaser in connection with the purchase of the Shares constitutes legal, tax or investment advice. Such Purchaser has consulted such legal, tax and investment advisors as it, in its sole discretion, has deemed necessary or appropriate in connection with its purchase of the Shares.

( k ) No Governmental Review. Such Purchaser understands that no United States federal or state agency or any other government or governmental agency has passed on or made any recommendation or endorsement of the Shares or the fairness or suitability of the investment in the Shares nor have such authorities passed upon or endorsed the merits of the offering of the Shares.

( l ) Residency. Such Purchaser's residence (if an individual) or office in which its investment decision with respect to the Shares was made (if an entity) are located at the address immediately below such Purchaser's name on its signature page hereto.

( m ) Acknowledgment. Each Purchaser acknowledges and agrees that such Purchaser has reviewed and considered prior to entering this Agreement the more detailed information about the Company and the risk factors that may affect the realization of forward-looking statements set forth in the Company's filings with the SEC, including its Annual Report on Form 10-K and its Quarterly Reports on Form 10-Q filed with the SEC.

The Company and each of the Purchasers acknowledge and agree that no party to this Agreement has made or makes any representations or warranties with respect to the transactions contemplated hereby other than those specifically set forth in this Article III and the Transaction Documents.

#### ARTICLE IV

##### OTHER AGREEMENTS OF THE PARTIES

###### 4.1 Transfer Restrictions.

(a) The Shares may only be disposed of in compliance with state and federal securities laws, including the requirement not to trade in the Shares while in possession of material non-public information. In connection with any transfer of Shares other than pursuant to an effective registration statement, to the Company or to an Affiliate of a Purchaser or in connection with a pledge as contemplated in Section 4.1(c), the Company may require the transferor thereof to provide to the Company an opinion of counsel selected by the transferor and reasonably acceptable to the Company, the form and substance of which opinion shall be reasonably satisfactory to the Company, to the effect that such transfer does not require registration of such transferred Shares under the Securities Act. As a condition of transfer, any such transferee shall agree in writing to be bound by the terms of this Agreement and shall have the rights of a Purchaser under this Agreement and the Registration Rights Agreement.

(b) The Purchasers agree to the imprinting, so long as is required by this Section 4.1, of a legend on any of the Shares in the following form:

THIS SECURITY HAS NOT BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS AS EVIDENCED BY A LEGAL OPINION OF COUNSEL TO THE TRANSFEROR TO SUCH EFFECT, THE SUBSTANCE OF WHICH SHALL BE REASONABLY ACCEPTABLE TO THE COMPANY. THIS SECURITY MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT WITH A REGISTERED BROKER-DEALER OR OTHER LOAN WITH A FINANCIAL INSTITUTION THAT IS AN "ACCREDITED INVESTOR" AS DEFINED IN RULE 501(a) UNDER THE SECURITIES ACT OR OTHER LOAN SECURED BY SUCH SECURITIES.

(c) The Company acknowledges and agrees that a Purchaser may from time to time pledge pursuant to a bona fide margin agreement with a registered broker-dealer or grant a security interest in some or all of the Shares to a financial institution that is an “accredited investor” as defined in Rule 501(a) under the Securities Act and who agrees to be bound by the provisions of this Agreement and the Registration Rights Agreement and, if required under the terms of such arrangement, such Purchaser may transfer pledged or secured Shares to the pledgees or secured parties. Such a pledge or transfer would not be subject to approval of the Company and no legal opinion of legal counsel of the pledgee, secured party or pledgor shall be required in connection therewith. Further, no notice shall be required of such pledge. At the appropriate Purchaser’s expense, the Company will execute and deliver such reasonable documentation as a pledgee or secured party of Shares may reasonably request in connection with a pledge or transfer of the Shares, including, if the Underlying Shares are subject to registration pursuant to the Registration Rights Agreement, the preparation and filing of any required prospectus supplement under Rule 424(b)(3) under the Securities Act or other applicable provision of the Securities Act to appropriately amend the list of Selling Stockholders thereunder.

(d) Certificates evidencing the Underlying Shares shall not contain any legend (including the legend set forth in Section 4.1(b)), (i) while a registration statement (including the Registration Statement) covering the resale of such Underlying Shares is effective under the Securities Act, or (ii) following any sale of such Underlying Shares pursuant to Rule 144, or (iii) if such Underlying Shares are eligible for sale under Rule 144, without the requirement for the Company to be in compliance with the current public information required under Rule 144(c)(1) (or Rule 144(i)(2), if applicable) as to such securities and without volume or manner of sale restrictions, or (iv) if such legend is not required under applicable requirements of the Securities Act (including judicial interpretations and pronouncements issued by the staff of the Commission). The Company shall cause its counsel to issue a legal opinion to the Transfer Agent promptly after the Effective Date if required by the Transfer Agent to effect the removal of the legend hereunder. The Company agrees that following the Effective Date or at such time as such legend is no longer required under this Section 4.1(d), it will, no later than three Trading Days following the delivery by a Purchaser to the Company or the Transfer Agent of a certificate representing Underlying Shares issued with a restrictive legend (such third Trading Day, the “Legend Removal Date”), deliver or cause to be delivered to such Purchaser a certificate representing such shares that is free from all restrictive and other legends. The Company may not make any notation on its records or give instructions to the Transfer Agent that enlarge the restrictions on transfer set forth in this Section 4.1. Certificates for Underlying Shares subject to legend removal hereunder shall be transmitted by the Transfer Agent to the Purchasers by crediting the account of the Purchaser’s prime broker with the Depository Trust Company System, if the Transfer Agent is a participant in the DWAC system, and otherwise by physical delivery of certificates as directed by the Purchaser.

(e) Each Purchaser, severally and not jointly with the other Purchasers, agrees that the removal of the restrictive legend from certificates representing Shares as set forth in this Section 4.1 is predicated upon the Company's reliance that the Purchaser will sell any Shares pursuant to either the registration requirements of the Securities Act, including any applicable prospectus delivery requirements, or an exemption therefrom, and that if Shares are sold pursuant to a Registration Statement, they will be sold in compliance with the plan of distribution set forth therein.

4.2 Furnishing of Information. For a period of one year after the date of this Agreement, the Company covenants to timely file (or obtain extensions in respect thereof and file within the applicable grace period) all reports required to be filed by the Company after the date hereof pursuant to the Exchange Act. During this one-year period, if the Company is not required to file reports pursuant to the Exchange Act, it will prepare and furnish to the Purchasers and make publicly available in accordance with Rule 144 such information as is required for the Purchasers to sell the Shares under Rule 144. The Company further covenants that it will take such further action as any holder of Shares may reasonably request, to the extent required from time to time to enable such Person to sell such Shares without registration under the Securities Act within the requirements of the exemption provided by Rule 144.

4.3 Integration. The Company shall not sell, offer for sale or solicit offers to buy or otherwise negotiate in respect of any security (as defined in Section 2 of the Securities Act) that could reasonably be expected to be integrated with the offer or sale of the Shares in a manner that would require the registration under the Securities Act of the sale of the Shares to the Purchasers or that would be integrated with the offer or sale of the Shares for purposes of the rules and regulations of any Trading Market such that it would require shareholder approval prior to the closing of such other transaction unless shareholder approval is obtained before the closing of such subsequent transaction.

4.4 Securities Laws Disclosure; Publicity. On or before 9:00 a.m., New York City time, on the Business Day immediately following the date hereof, the Company shall issue a press release (the "Press Release") reasonably acceptable to the Purchasers disclosing all material terms of the transactions contemplated hereby. On or before 5:30 p.m., New York City time, on the fourth Trading Day immediately following the execution of this Agreement, the Company will file a Current Report on Form 8-K with the Commission describing the terms of the Transaction Documents (and including as exhibits to such Current Report on Form 8-K the material Transaction Documents (including, without limitation, this Agreement and the Registration Rights Agreement)). Notwithstanding the foregoing, the Company shall not publicly disclose the name of any Purchaser or an Affiliate of any Purchaser, or include the name of any Purchaser or an Affiliate of any Purchaser in any press release or filing with the Commission (other than the Registration Statement) or any regulatory agency or Trading Market, without the prior written consent of such Purchaser, except (i) as required by federal securities law in connection with (A) any registration statement contemplated by the Registration Rights Agreement and (B) the filing of final Transaction Documents (including signature pages thereto) with the Commission and (ii) to the extent such disclosure is required by law, request of the Staff of the Commission or Trading Market regulations, in which case the Company shall provide the Purchasers with prior written notice of such disclosure permitted under this subclause (ii). From and after the issuance of the Press Release, no Purchaser shall be in possession of any material, non-public information received from the Company or any of its officers, directors, employees or agents, that is not disclosed in the Press Release.

#### 4.5 Indemnification of Purchasers.

(a) In addition to the indemnity provided in the Registration Rights Agreement, the Company will indemnify and hold each Purchaser and its directors, officers, stockholders, members, partners, employees and agents (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title), each Person who controls such Purchaser (within the meaning of Section 15 of the Securities Act and Section 20 of the Exchange Act), and the directors, officers, stockholders, agents, members, partners or employees (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title) of such controlling person (each, a "Purchaser Party") harmless from any and all losses, liabilities, obligations, claims, contingencies, damages, costs and expenses, including all judgments, amounts paid in settlements, court costs and reasonable attorneys' fees and costs of investigation that any such Purchaser Party may suffer or incur (i) as a result of any breach of any of the representations, warranties, covenants or agreements made by the Company in this Agreement or in the other Transaction Documents or (ii) arising out of, in connection with, or as a result of the execution or delivery of this Agreement, any other Transaction Document or any agreement or instrument contemplated hereby or thereby, the performance by the parties hereto of their respective obligations hereunder or thereunder or the consummation of the transactions contemplated hereby or thereby. The Company will not be liable to any Purchaser Party under this Agreement to the extent, but only to the extent that a loss, claim, damage or liability is attributable to any Purchaser Party's breach of any of the representations, warranties, covenants or agreements made by such Purchaser Party in this Agreement or in the other Transaction Documents.

(b) Promptly after receipt by any Person (the "Indemnified Person") of notice of any demand, claim or circumstances which would or might give rise to a claim or the commencement of any action, proceeding or investigation in respect of which indemnity may be sought pursuant to Section 4.5(a), such Indemnified Person shall promptly notify the Company in writing and the Company shall assume the defense thereof, including the employment of counsel reasonably satisfactory to such Indemnified Person, and shall assume the payment of all fees and expenses; provided, however, that the failure of any Indemnified Person so to notify the Company shall not relieve the Company of its obligations hereunder except to the extent that the Company is actually and materially and adversely prejudiced by such failure to notify. In any such proceeding, any Indemnified Person shall have the right to retain its own counsel, but the fees and expenses of such counsel shall be at the expense of such Indemnified Person unless: (i) the Company and the Indemnified Person shall have mutually agreed to the retention of such counsel; (ii) the Company shall have failed promptly to assume the defense of such proceeding and to employ counsel reasonably satisfactory to such Indemnified Person in such proceeding; or (iii) in the reasonable judgment of counsel to such Indemnified Person, representation of both parties by the same counsel would be inappropriate due to actual or potential differing interests between them. The Company shall not be liable for any settlement of any proceeding effected without its written consent, which consent shall not be unreasonably withheld, delayed or conditioned. Without the prior written consent of the Indemnified Person, which consent shall not be unreasonably withheld, delayed or conditioned, the Company shall not effect any settlement of any pending or threatened proceeding in respect of which any Indemnified Person is or could have been a party and indemnity could have been sought hereunder by such Indemnified Party, unless such settlement includes an unconditional release of such Indemnified Person from all liability arising out of such proceeding, does not admit liability on the part of or attribute fault to any Indemnified Person and contains a provision requiring confidentiality with respect to the facts and circumstances of the dispute and of the existence and amount of the settlement.

4 . 6 Reservation of Preferred Stock. As of the date hereof, the Company has reserved and the Company shall continue to reserve and keep available at all times, a sufficient number of shares of Preferred Stock for the purpose of enabling the Company to issue Shares pursuant to this Agreement.

4 . 7 Listing or Quotation of Common Stock. The Company's common stock is currently quoted on the NYSE-MKT and is not currently eligible for listing or quotation on any other Trading Market. The Company hereby agrees to use best efforts to maintain the listing or quotation of the Common Stock on a Trading Market, and prior to the Closing to list all of the Underlying Shares on such Trading Market, as may be applicable. The Company further agrees, if the Company applies to have the Common Stock traded on any other Trading Market, it will include in such application all of the Underlying Shares, and will take such other action as is necessary to cause all of the Underlying Shares to be listed on such other Trading Market as promptly as possible. The Company will take all action reasonably necessary to continue the listing and trading of its Common Stock on a Trading Market and will comply in all respects with the Company's reporting, filing and other obligations under the bylaws or rules of the Trading Market.

4 . 8 Equal Treatment of Purchasers. No consideration shall be offered or paid to any Person to amend or consent to a waiver or modification of any provision of any of the Transaction Documents unless the same consideration is also offered to all of the parties to the Transaction Documents. For clarification purposes, this provision constitutes a separate right granted to each Purchaser by the Company and negotiated separately by each Purchaser, and is intended for the Company to treat the Purchasers as a class and shall not in any way be construed as the Purchasers acting in concert or as a group with respect to the purchase, disposition or voting of Securities or otherwise.

4 . 9 Confidentiality After The Date Hereof. Each Purchaser, severally and not jointly with the other Purchasers, covenants that until such time as the transactions contemplated by this Agreement and such other material non-public information related to the Company in possession of the Purchaser are publicly disclosed by the Company as described in Section 4.4, such Purchaser will maintain the confidentiality of all non-public information disclosed to it in connection with the transactions contemplated hereby (including the existence and terms of such transactions).

4.10 Delivery of Shares After Closing. The Company shall deliver, or cause to be delivered, the respective Shares purchased by each Purchaser to such Purchaser within three Trading Days of the Closing Date (unless such Purchaser has specified to the Company at the time of execution of this Agreement that it shall settle "delivery versus payment" in which case such Shares shall be delivered on or prior to the Closing Date).

4.11 Form D; Blue Sky Filings. The Company agrees to timely file a Form D with respect to the Shares as required under Regulation D and to provide a copy thereof, promptly upon request of any Purchaser. The Company shall take such action as the Company shall reasonably determine is necessary in order to obtain an exemption for, or to qualify the Shares for, sale to the Purchasers at the Closing under applicable securities or “Blue Sky” laws of the states of the United States, and shall provide evidence of such actions promptly upon request of any Purchaser.

4.12 Use of Proceeds. The Company intends to use the net proceeds of this offering after payment of the expenses of the offering for general corporate purposes and shall not use such proceeds for the satisfaction of any portion of the Company’s debt (other than trade payables in the ordinary course of the Company’s business and prior practices), or to redeem any Common Stock or Common Stock Equivalents.

4.13 Termination. Notwithstanding anything herein to the contrary, this Agreement may be terminated at any time by any Purchaser (with respect to the obligations of such Purchaser) or the Company, upon written notice to the other party, if the Closing shall not have occurred on or before October 1, 2017 (the “Outside Date”); provided, however, that the right to terminate this Agreement under this Section 4.13 shall not be available to any party whose (i) breach of any provision of this Agreement, (ii) failure to comply with their obligations under this Agreement or (iii) actions not taken in good faith, shall have been the cause of, or shall have resulted in, the failure of the Closing to occur on or prior to the Outside Date or the failure of a condition in Section 2.3 to be satisfied at such time.

## ARTICLE V MISCELLANEOUS

5.1 Fees and Expenses. Except as expressly set forth in the Transaction Documents to the contrary, each party shall pay the fees and expenses of its advisers, counsel, accountants and other experts, if any, and all other expenses incurred by such party incident to the negotiation, preparation, execution, delivery and performance of this Agreement. The Company shall pay all Transfer Agent fees, stamp taxes and other taxes and duties levied in connection with the delivery of the Shares to the Purchasers.

5.2 Entire Agreement. The Transaction Documents, together with the exhibits and schedules thereto, contain the entire understanding of the parties with respect to the subject matter hereof and supersede all prior agreements and understandings, oral or written, with respect to such matters, which the parties acknowledge have been merged into such documents, exhibits and schedules. At or after the Closing, and without further consideration, the Company and the Purchasers will execute and deliver to the other such further documents as may be reasonably requested in order to give practical effect to the intention of the parties under the Transaction Documents.

5.3 Notices. Any and all notices or other communications or deliveries required or permitted to be provided hereunder shall be in writing and shall be deemed given and effective on the earliest of: (a) the date of transmission, if such notice or communication is delivered via email to the e-mail address set forth on the signature pages attached hereto prior to 5:30 p.m. (New York City time) on a Trading Day; (b) the next Trading Day after the date of transmission, if such notice or communication is delivered via email to the e-mail address set forth on the signature pages attached hereto on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day; (c) the 2nd Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service; or (d) upon actual receipt by the party to whom such notice is required to be given. The address for such notices and communications shall be as set forth on the signature pages attached hereto.

5.4 Amendments; Waivers. No provision of this Agreement may be waived or amended except in a written instrument signed, in the case of an amendment, by the Company and each Purchaser. No waiver of any default with respect to any provision, condition or requirement of this Agreement shall be deemed to be a continuing waiver in the future or a waiver of any subsequent default or a waiver of any other provision, condition or requirement hereof, nor shall any delay or omission of either party to exercise any right hereunder in any manner impair the exercise of any such right.

5.5 Headings and Construction. The headings herein are for convenience only, do not constitute a part of this Agreement and shall not be deemed to limit or affect any of the provisions hereof. The language used in this Agreement will be deemed to be the language chosen by the parties to express their mutual intent, and no rules of strict construction will be applied against any party. This Agreement shall be construed as if drafted jointly by the parties, and no presumption or burden of proof shall arise favoring or disfavoring any party by virtue of the authorship of any provisions of this Agreement or any of the Transaction Documents.

5.6 Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties and their successors and permitted assigns. The Company may not assign this Agreement or any rights or obligations hereunder without the prior written consent of each Purchaser (other than by merger). Any Purchaser may assign any or all of its rights under this Agreement to any Person to whom such Purchaser assigns or transfers any Shares, provided such transferee agrees in writing to be bound, with respect to the transferred Shares, by the provisions of the Transaction Documents that apply to the "Purchasers."

5.7 No Third-Party Beneficiaries. This Agreement is intended for the benefit of the parties hereto and their respective successors and permitted assigns and is not for the benefit of, nor may any provision hereof be enforced by, any other Person.

5.8 Governing Law. All questions concerning the construction, validity, enforcement and interpretation of the Transaction Documents shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Agreement and any other Transaction Documents (whether brought against a party hereto or its respective affiliates, directors, officers, shareholders, employees or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, borough of Manhattan for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is improper or is an inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law.

5.9 Survival. The representations and warranties contained herein shall survive the Closing and the delivery of the Shares.

5.10 Execution. This Agreement may be executed in two or more counterparts, all of which when taken together shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to the other party, it being understood that both parties need not sign the same counterpart. In the event that any signature is delivered by facsimile transmission or by e-mail delivery of a “.pdf” format data file, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile or “.pdf” signature page were an original thereof.

5.11 Severability. If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction to be invalid, illegal, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions set forth herein shall remain in full force and effect and shall in no way be affected, impaired or invalidated, and the parties hereto shall use their commercially reasonable efforts to find and employ an alternative means to achieve the same or substantially the same result as that contemplated by such term, provision, covenant or restriction. It is hereby stipulated and declared to be the intention of the parties that they would have executed the remaining terms, provisions, covenants and restrictions without including any of such that may be hereafter declared invalid, illegal, void or unenforceable.

5.12 Rescission and Withdrawal Right. Notwithstanding anything to the contrary contained in (and without limiting any similar provisions of) any of the other Transaction Documents, whenever any Purchaser exercises a right, election, demand or option under a Transaction Document and the Company does not timely and materially perform its related obligations within the periods therein provided, then such Purchaser may rescind or withdraw, in its sole discretion from time to time upon written notice to the Company, any relevant notice, demand or election in whole or in part without prejudice to its future actions and rights.

5.13 Replacement of Shares. If any certificate or instrument evidencing any Shares is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation thereof, or in lieu of and substitution therefor, a new certificate or instrument, but only upon receipt of evidence reasonably satisfactory to the Company and the Transfer Agent of such loss, theft or destruction and the execution by the holder thereof of a customary lost certificate affidavit of that fact and an agreement to indemnify and hold harmless the Company and the Transfer Agent for any losses in connection therewith or, if required by the Transfer Agent, a bond in such form and amount as is required by the Transfer Agent. The applicants for a new certificate or instrument under such circumstances shall also pay any reasonable third-party costs associated with the issuance of such replacement Shares. If a replacement certificate or instrument evidencing any Shares is requested due to a mutilation thereof, the Company may require delivery of such mutilated certificate or instrument as a condition precedent to any issuance of a replacement.

5.14 Remedies. In addition to being entitled to exercise all rights provided herein or granted by law, including recovery of damages, each of the Purchasers and the Company will be entitled to specific performance under the Transaction Documents. The parties agree that monetary damages may not be adequate compensation for any loss incurred by reason of any breach of obligations contained in the Transaction Documents and hereby agrees to waive and not to assert in any action for specific performance of any such obligation the defense that a remedy at law would be adequate.

5.15 Payment Set Aside. To the extent that the Company makes a payment or payments to any Purchaser pursuant to any Transaction Document or a Purchaser enforces or exercises its rights thereunder, and such payment or payments or the proceeds of such enforcement or exercise or any part thereof are subsequently invalidated, declared to be fraudulent or preferential, set aside, recovered from, disgorged by or are required to be refunded, repaid or otherwise restored to the Company, a trustee, receiver or any other person under any law (including, without limitation, any bankruptcy law, state or federal law, common law or equitable cause of action), then to the extent of any such restoration the obligation or part thereof originally intended to be satisfied shall be revived and continued in full force and effect as if such payment had not been made or such enforcement or setoff had not occurred.

5.16 Independent Nature of Purchasers' Obligations and Rights. The obligations of each Purchaser under any Transaction Document are several and not joint with the obligations of any other Purchaser, and no Purchaser shall be responsible in any way for the performance or non-performance of the obligations of any other Purchaser under any Transaction Document. Nothing contained herein or in any other Transaction Document, and no action taken by any Purchaser pursuant thereto, shall be deemed to constitute the Purchasers as a partnership, an association, a joint venture or any other kind of entity, or create a presumption that the Purchasers are in any way acting in concert or as a group with respect to such obligations or the transactions contemplated by the Transaction Documents. Each Purchaser shall be entitled to independently protect and enforce its rights, including without limitation, the rights arising out of this Agreement or out of the other Transaction Documents, and it shall not be necessary for any other Purchaser to be joined as an additional party in any proceeding for such purpose. Each Purchaser has been represented by its own separate legal counsel in their review and negotiation of the Transaction Documents. The Company has elected to provide all Purchasers with the same terms and Transaction Documents for the convenience of the Company and not because it was required or requested to do so by the Purchasers.

5.17 No Promotion. The Company agrees that it will not, and shall cause each of its Subsidiaries to not, without the prior written consent of a Purchaser, use for advertising, publicity or other purposes the name of such Purchaser, its affiliates or any of their respective partners or employees, nor any trade name, trademark, trade device, service mark, symbol or any abbreviation, contraction or simulation thereof owned by such persons; it being understood that disclosure deemed necessary in regulatory filings does not fall under this prohibition. The Company further agrees that it shall obtain the written consent of such Purchaser prior to the Company's or any of its Subsidiaries' issuance of any public statement detailing the purchase of Shares by Purchasers pursuant to this Agreement.

5.18 Construction. The parties agree that each of them and/or their respective counsel has reviewed and had an opportunity to revise the Transaction Documents and, therefore, the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of the Transaction Documents or any amendments hereto.

5.19 Exculpation Among Purchasers. Each Purchaser acknowledges that it is not relying upon any person, firm or corporation (including without limitation any other Purchaser), other than the Company and its officers and directors (acting in their capacity as representatives of the Company), in deciding to invest and in making its investment in the Company. Each Purchaser agrees that no other Purchaser nor the respective controlling persons, officers, directors, partners, agents or employees of any other Purchaser shall be liable to such Purchaser for any losses incurred by such Purchaser in connection with its investment in the Company.

5.20 Company Acknowledgement. The Company acknowledges and agrees that (i) each of the Purchasers is participating in the transactions contemplated by this Agreement and the other Transaction Documents at the Company's request and the Company has concluded that such participation is in the Company's best interest and is consistent with the Company's objectives and (ii) each of the Purchasers is acting solely in the capacity of an arm's length purchaser. The Company further acknowledges that no Purchaser is acting or has acted as an advisor, agent or fiduciary of the Company (or in any similar capacity) with respect to this Agreement or the other Transaction Documents and any advice given by any Purchaser or any of its respective representatives in connection with this Agreement or the other Transaction Documents is merely incidental to the Purchasers' purchase of Shares. The Company further represents to each Purchaser that the Company's decision to enter into this Agreement has been based solely on the independent evaluation of the transactions contemplated hereby by the Company and its representatives.

5.21 Exercise Limit. Notwithstanding anything to the contrary set forth in this Agreement, the Company shall not be obligated to issue any shares of Common Stock upon exercise of the Preferred Stock if the issuance of such shares of Common Stock would exceed the aggregate number of shares of Common Stock that the Company may issue upon conversion of the Preferred Stock to remain in compliance with the Company's obligations under the rules or regulations of the Trading Market, which rules and regulations limit the amount of shares of Common Stock that the Company may issue upon conversion of the Preferred Stock to no more than an aggregate of 19.99% of the number of shares outstanding on the Closing Date (the "Exchange Cap"), except that such limitation shall not apply in the event that the Company (A) obtains the approval of its stockholders as required by the applicable rules of the Trading Market for issuances of Common Stock in excess of such amount, or (B) obtains a written opinion from outside counsel to the Company that such approval is not required, which opinion shall be reasonably satisfactory to majority stockholders. In the event that the Company is not obligated, as a result of the operation of the immediately preceding sentence, to issue any shares of Common Stock that it would have otherwise be required to issue upon conversion of Preferred Stock, then the Company shall issue the number of shares of Common Stock that it is obligated issue after giving effect to the immediately preceding sentence and, in addition, on the date of such issuance, shall pay to the holder exercising conversion of Preferred Stock an amount in cash equal to the product of (a) the difference between (x) the number of shares of Common Stock that the Company is obligated issue before giving effect to the immediately preceding sentence, minus (y) the number of shares of Common Stock that the Company is obligated issue after giving effect to the immediately preceding sentence, multiplied by (b) the closing price of the Common Stock on the Trading Market on the Trading Day immediately preceding the date on which the notice of conversion is delivered to the Company by such holder.

*(Signature Pages Follow)*

**IN WITNESS WHEREOF**, the undersigned has caused this Share Purchase Agreement to be duly executed by its authorized signatory as of the date first indicated above.

**SYNTHETIC BIOLOGICS, INC.**

Address for Notice:

9605 Medical Center Drive, Suite 270  
Rockville, MD 20850

By /s/ Jeffrey L. Riley

Name: Jeffrey L. Riley

Title: Chief Executive Officer

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK;  
SIGNATURE PAGE FOR PURCHASER FOLLOWS]

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**IN WITNESS WHEREOF**, the undersigned has caused this Share Purchase Agreement to be duly executed by its authorized signatory as of the date first indicated above.

Name of Purchaser: MSD Credit Opportunity Master Fund, L.P.

*Signature of Authorized Signatory of Purchaser:*

/s/ Marcello Liguori

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Name of Authorized Signatory: Marcello Liguori

Title of Authorized Signatory: Managing Director

Email Address of Purchaser: mliguori@msdcapital.com

Address for Notice of Purchaser: 645 Fifth Avenue, 21<sup>st</sup> Floor  
New York, NY 10022  
Attn: Marcello Liguori

Address for Delivery of Shares for Purchaser (if not same as above):

Goldman, Sachs & Co.  
222 South Main Street, 11th Floor  
Salt Lake City, UT 84101-2174  
Phone: (801) 884-4435  
Attn: Richard Hixson

Subscription Amount: \$12,000,000.00

Shares of Preferred Stock: 120,000 (conv. @ \$0.54 into 22,222,222 shares)

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**Exhibit A**

**Certificate of Designation**

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**Exhibit B**

**Registration Rights Agreement**

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## Exhibit C

### Form of Legal opinion of Company Counsel and Nevada Counsel

Based upon and subject to the foregoing, it is our opinion as of this date that:

1. Based solely upon the certificate of good standing, dated [\_\_\_\_\_], 2017, issued by the State of Nevada, the Company is a corporation validly existing and in good standing under the laws of the State of Nevada.
  2. The Company has the corporate power and authority to execute, deliver and perform its obligations under the Transaction Documents, including, without limitation, to issue and deliver the Shares as contemplated by the Agreement. Each of the Transaction Documents has been duly authorized by all necessary corporate action and each has been duly executed and delivered on behalf of the Company, and each is a legal, valid and binding obligation of the Company enforceable against the Company in accordance with its terms.
  3. The execution and delivery by the Company of the Transaction Documents, and the performance by the Company of its obligations thereunder as of the date hereof, do not violate the Company's Articles of Incorporation or Bylaws, do not constitute a default under or a material breach of any material agreement of the Company that has not otherwise been waived and, to our knowledge, do not (a) violate any U. S. Federal or state statute, rule or regulation applicable to the transactions contemplated by the Transaction Documents or (b) violate any order, writ, judgment, injunction, decree, determination or award which has been entered against the Company and of which such counsel is aware, except, with respect to clauses (a) and (b), where such violation would not materially and adversely affect the Company.
  4. The Company has the authorized capital stock as set forth in the SEC Documents. The Shares have been duly authorized, and when issued and sold in accordance with the Share Purchase Agreement, will be validly issued and non-assessable.
  5. No approval, authorization or other action by, or notice to or filing with, any governmental authority is required in connection with the execution, delivery and performance by the Company of the Transaction Documents, except (a) those that have been obtained or made and are in full force and effect, and (b) any filings required by Regulation D promulgated under the Securities Act of 1933, as amended, or by state securities laws.
  6. To our knowledge, there is no action, proceeding or investigation pending or overtly threatened against the Company before any court or administrative agency that questions the validity of the Transaction Documents or that could reasonably be expected to result, either individually or in the aggregate, in a material adverse effect on the Company.
  7. Assuming the truth and accuracy of the representations made by the Company and the Purchasers in the Share Purchase Agreement, the sale and issuance of the Shares in conformity with the terms of the Transaction Documents constitute transactions that are exempt from the registration requirements of the Securities Act of 1933, as amended, subject to the timely filing of a Form D pursuant to Regulation D.
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8. The Company is not, after giving effect to the issuance of the Shares, an “investment company” as defined in the Investment Company Act of 1940, as amended.

9. To our knowledge, there are no written contracts, agreements or understandings between the Company and any person granting such person the right (other than rights which have been waived in writing or otherwise satisfied) to require the Company to include any securities of the Company in any registration statement.

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## Synthetic Biologics Announces Closing of \$12 Million Convertible Preferred Stock Financing

### For Immediate Release

**Rockville, MD, September 12, 2017** – Synthetic Biologics, Inc. (NYSE American: SYN), a late-stage clinical company developing therapeutics that preserve the microbiome to protect and restore the health of patients, announced today the closing of a privately placed stock purchase transaction for the sale of redeemable convertible preferred stock to an affiliate of MSD Partners, L.P. for aggregate gross proceeds of \$12 million.

Synthetic Biologics intends to use proceeds from the Preferred Stock transaction for general corporate purposes, including the continued advancement of SYN-004 (ribaxamase), the Company's Breakthrough Therapy Designation drug candidate designed to prevent antibiotic-mediated *C. difficile* infection (CDI), overgrowth of pathogenic organisms and the emergence of antimicrobial resistance (AMR) in the gut microbiome.

"We would like to thank MSD Partners, L.P. for their continued support of Synthetic Biologics and our pipeline of novel microbiome-focused clinical programs," said Jeff Riley, President and Chief Executive Officer of Synthetic Biologics. "With proceeds from this transaction, we intend to further advance SYN-004's (ribaxamase) late-stage clinical development and advancement towards commercialization. Our goal remains to create long-term value for all our stakeholders, including the millions of patients who stand to benefit from our innovative approach to protecting the gut microbiome from the adverse effects of antibiotic use."

At closing, Synthetic Biologics issued shares of Preferred Stock, which are convertible into common shares at an initial conversion price of \$0.54 per share. Please refer to the Company's Form 8-K which will be filed with the Securities and Exchange Commission on September 12, 2017 for the complete terms of the Preferred Stock transaction.

### About Synthetic Biologics, Inc.

Synthetic Biologics, Inc. (NYSE American: SYN) is a late-stage clinical company developing therapeutics designed to preserve the microbiome to protect and restore the health of patients. The Company's lead candidates poised for Phase 3 development are: (1) SYN-004 (ribaxamase) which is designed to protect the gut microbiome from the effects of certain commonly used intravenous (IV) beta-lactam antibiotics for the prevention of *C. difficile* infection (CDI), overgrowth of pathogenic organisms and the emergence of antimicrobial resistance (AMR), and (2) SYN-010 which is intended to reduce the impact of methane producing organisms in the gut microbiome to treat an underlying cause of irritable bowel syndrome with constipation (IBS-C). The Company is also developing preclinical stage monoclonal antibody therapies for the prevention and treatment of pertussis and novel discovery stage biotherapeutics for the treatment of phenylketonuria (PKU). For more information, please visit Synthetic Biologics' website at [www.syntheticbiologics.com](http://www.syntheticbiologics.com).

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*This press release includes forward-looking statements on Synthetic Biologics' current expectations and projections about future events. In some cases, forward-looking statements can be identified by terminology such as "may," "should," "potential," "continue," "expects," "anticipates," "intends," "plans," "believes," "estimates," and similar expressions. These statements are based upon current beliefs, expectations and assumptions and are subject to a number of risks and uncertainties, many of which are difficult to predict and include statements regarding the intended use of proceeds from the financing and further advancement of SYN-004's (ribaxamase) late-stage clinical development and advancement towards commercialization. These forward-looking statements are based on management's expectations and assumptions as of the date of this press release and are subject to a number of substantial risks and uncertainties, many of which are difficult to predict and could cause actual results to differ materially and adversely from current expectations and assumptions from those set forth, projected or implied by any forward-looking statements. Important factors that could cause actual results to differ materially from current expectations include, among others, Synthetic Biologics' product candidates demonstrating safety and effectiveness, as well as results that are consistent with prior results, Synthetic Biologics' ability to initiate clinical trials and if initiated, to complete them on time and achieve desired results and benefits, Synthetic Biologics' clinical trials continuing enrollment as expected, Synthetic Biologics' ability to obtain regulatory approvals for commercialization of product candidates or to comply with ongoing regulatory requirements, regulatory limitations relating to Synthetic Biologics' ability to promote or commercialize its product candidates for specific indications, acceptance of its product candidates in the marketplace and the successful development, marketing or sale of Synthetic Biologics' products by competitors that render Synthetic Biologics' products obsolete or non-competitive, Synthetic Biologics' ability to maintain its license agreements, the continued maintenance and growth of Synthetic Biologics' patent estate, Synthetic Biologics becoming and remaining profitable, Synthetic Biologics' ability to establish and maintain collaborations, Synthetic Biologics' ability to obtain or maintain the capital or grants necessary to fund its research and development activities, a loss of any of Synthetic Biologics' key scientists or management personnel, and other factors described in Synthetic Biologics' Annual Report on Form 10-K for the year ended December 31, 2016, and its other filings with the SEC, including subsequent periodic reports on Forms 10-Q and 8-K. The information in this release is provided only as of the date of this release, and Synthetic Biologics undertakes no obligation to revise or update any forward-looking statements contained in this release on account of new information, future events, or otherwise, except as required by law.*

**For further information, please contact:**

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