

# HEAT BIOLOGICS, INC.

## **FORM S-1/A** (Securities Registration Statement)

Filed 04/26/18

Address	801 CAPITOLA DRIVE DURHAM, NC, 27713
Telephone	919-240-7133
CIK	0001476963
Symbol	HTBX
SIC Code	2834 - Pharmaceutical Preparations
Industry	Biotechnology & Medical Research
Sector	Healthcare
Fiscal Year	12/31

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

AMENDMENT NO. 2  
To  
FORM S-1  
REGISTRATION STATEMENT  
UNDER THE SECURITIES ACT OF 1933



**Heat Biologics, Inc.**

*(Exact name of Registrant as specified in its charter)*

**Delaware**  
*(State or other jurisdiction of  
incorporation or organization)*

**2836**  
*(Primary Standard Industrial  
Classification Code Number)*

**26-2844103**  
*(I.R.S. Employer  
Identification Number)*

**801 Capitola Drive  
Durham, North Carolina 27713  
(919) 240-7133**  
*(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)*

**Jeffrey Wolf**  
**Chief Executive Officer and  
Chairman of the Board of Directors**  
**Heat Biologics, Inc.**  
**801 Capitola Drive  
Durham, North Carolina 27713  
(919) 240-7133**  
*(Name, address, including zip code, and telephone number, including area code, of agent for service)*

**Copies to:**

**Leslie Marlow, Esq.  
Hank Gracin, Esq.  
Patrick J. Egan, Esq.  
Gracin & Marlow, LLP  
The Chrysler Building  
405 Lexington Avenue, 26<sup>th</sup> Floor  
New York, New York 10174  
(212) 907-6457**

**Oded Har-Even, Esq.  
Robert V. Condon III, Esq.  
Zysman, Aharoni, Gayer and  
Sullivan & Worcester LLP  
1633 Broadway  
New York, NY 10019  
(212) 660-3000**

**Approximate date of commencement of proposed sale to the public :** As soon as practicable after the effective date of this registration statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act of 1933, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act of 1933, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act of 1933, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act of 1934.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
(Do not check if a smaller reporting company)		Emerging growth company	<input checked="" type="checkbox"/>

If an emerging growth company, indicate by check mark 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 7(a)(2)(B) of the Securities Act.

## CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered (1)	Proposed maximum aggregate offering price(1)(2)(3)	Amount of registration fee(4)
Common Stock, \$0.0002 par value (including common stock purchase rights) (5)		
Pre-Funded warrants to purchase shares of common stock (5)(6)		
Shares of common stock issuable upon exercise of the pre-funded warrants (7)		
<b>Total</b>	<b>\$17,250,000</b>	<b>2,147.63 <sup>(8)</sup></b>

- (1) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(o) of the Securities Act of 1933, as amended (the "Securities Act").
- (2) Pursuant to Rule 416, the securities being registered hereunder include such indeterminate number of additional securities as may be issued after the date hereof as a result of stock splits, stock dividends or similar transactions.
- (3) Includes shares of common stock the underwriters have the option to purchase solely to cover over-allotments, if any. This registration statement also covers the common stock purchase rights issuable in accordance with the rights agreement, dated as of March 11, 2018, between the Registrant and Continental Stock Transfer & Trust Company, as Rights Agent, which are presently attached to and trade with the Registrant's common stock.
- (4) Calculated under Section 6(b) of the Securities Act as .00012450 of the proposed maximum aggregate offering price.
- (5) The proposed maximum offering price of the common stock proposed to be sold in the offering will be reduced on a dollar-for-dollar basis on the offering price of any pre-funded warrants offered and sold in the offering, and as such the proposed aggregate maximum offering price of the common stock and pre-funded warrants (including the common stock issuable upon exercise of the pre-funded warrants) if any, is \$17,250,000.
- (6) The Registrant may issue pre-funded warrants to purchase shares of common stock in the offering. The purchase price of each pre-funded warrant will equal the price per share at which shares of common stock are being sold to the public in this offering, minus \$0.01, and the exercise price of each pre-funded warrant will equal \$0.01 per share.
- (7) No additional registration fee is payable pursuant to Rule 457(i) under the Securities Act.
- (8) Previously paid.

**The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to Section 8(a), may determine.**

## EXPLANATORY NOTE

The sole purpose of this Amendment No. 2 to the Registration Statement on Form S-1 (File No. 333-224039) (the “Registration Statement”) of Heat Biologics, Inc. is to file Exhibit 1.2 and Exhibit 23.1 to this Registration Statement as indicated in Item 16 of Part II and to update Item 13. No change is made to the preliminary prospectus constituting Part I of this Registration Statement or Items 14, 15 or 17 of Part II of this Registration Statement. Accordingly, this Amendment No. 2 consists only of the facing page, this explanatory note and Part II of the Registration Statement.

## PART II - INFORMATION NOT REQUIRED IN PROSPECTUS

### ITEM 13. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION

We estimate that expenses in connection with the distribution described in this registration statement (other than fees and commissions charged by the underwriters) will be as set forth below. We will pay all of the expenses with respect to the distribution, and such amounts, with the exception of the SEC registration fee and the Financial Industry Regulatory Authority, Inc. (“FINRA”) filing fee, are estimates.

SEC registration fee	\$ 2,148
FINRA filing fee	3,088
Accounting fees and expenses	50,000
Printing fees	7,000
Legal fees and expenses	250,000
Underwriters’ out-of-pocket expenses	150,000
Marketing fees	25,000
Other (including transfer agent fees)	12,764
<b>Total</b>	<b>\$ 500,000</b>

### ITEM 14. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Subsection (a) of Section 145 of the General Corporation Law of the State of Delaware (the “DGCL”) empowers a corporation to indemnify any person who was or is a party or who is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation) by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys’ fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the person’s conduct was unlawful.

Subsection (b) of Section 145 empowers a corporation to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that the person acted in any of the capacities set forth above, against expenses (including attorneys’ fees) actually and reasonably incurred by the person in connection with the defense or settlement of such action or suit if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Section 145 further provides that to the extent a director or officer of a corporation has been successful on the merits or otherwise in the defense of any action, suit or proceeding referred to in subsections (a) and (b) of Section 145, or in defense of any claim, issue or matter therein, such person shall be indemnified against expenses (including attorneys’ fees) actually and reasonably incurred by such person in connection therewith; that indemnification provided for by Section 145 shall not be deemed exclusive of any other rights to which the indemnified party may be entitled; and the indemnification provided for by Section 145 shall, unless otherwise provided when authorized or ratified, continue as to a person who has ceased to be a director, officer, employee or agent and shall inure to the benefit of such person’s heirs, executors and administrators. Section 145 also empowers the corporation to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against such person and incurred by such person in any such capacity, or arising out of his status as such, whether or not the corporation would have the power to indemnify such person against such liabilities under Section 145.

Section 102(b)(7) of the DGCL provides that a corporation’s certificate of incorporation may contain a provision eliminating or limiting the personal liability of a director to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, provided that such provision shall not eliminate or limit the liability of a director (i) for any breach of the director’s duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the DGCL, or (iv) for any transaction from which the director derived an improper personal benefit.

Our certificate of incorporation and our bylaws provide that we will indemnify our directors and officers to the fullest extent permitted by the DGCL, which prohibits our certificate of incorporation from limiting the liability of our directors for the following:

- any breach of the director's duty of loyalty to us or our stockholders;
- acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- unlawful payment of dividends or unlawful stock repurchases or redemptions; or
- any transaction from which the director derived an improper benefit.

Our third amended and restated certificate of incorporation provides for indemnification of our directors and executive officers to the maximum extent permitted by the DGCL, and our amended and restated bylaws provide for indemnification of our directors and executive officers to the maximum extent permitted by the DGCL.

We have entered into indemnification agreements with each of our current directors. These agreements will require us to indemnify these individuals to the fullest extent permitted under Delaware law against liabilities that may arise by reason of their service to us and to advance expenses incurred as a result of any proceeding against them as to which they could be indemnified. We also intend to enter into indemnification agreements with our future directors and executive officers.

In any underwriting agreement we enter into in connection with the sale of common stock and pre-funded warrants being registered hereby, the underwriters will agree to indemnify, under certain conditions, us, our directors, our officers and persons who control us, within the meaning of the Securities Act, against certain liabilities.

#### **ITEM 15. RECENT SALES OF UNREGISTERED SECURITIES**

The following information sets forth certain information with respect to all securities which we have sold during the last three years.

On April 30, 2015, we issued 10,000 shares of our common stock (1,000 shares of common stock post-reverse stock split) to an investor relations firm, as partial consideration for services rendered pursuant to the terms of an agreement that we entered into with such firm. These shares were issued upon the exemption from the registration provisions of the Securities Act provided for by Section 4(a)(2) thereof for transactions not involving a public offering.

On August 30, 2015, we issued 10,000 shares of our common stock (1,000 shares of common stock post-reverse stock split) to an investor relations firm, as partial consideration for services rendered pursuant to the terms of an agreement that we entered into with such firm. These shares were issued upon the exemption from the registration provisions of the Securities Act provided for by Section 4(a)(2) thereof for transactions not involving a public offering.

On September 30, 2016, we issued 7,664 shares of our common stock (766 shares of common stock post-reverse stock split) to an investor relations firm, as partial consideration for services rendered pursuant to the terms of an agreement that we entered into with such firm. These shares were issued upon the exemption from the registration provisions of the Securities Act provided for by Section 4(a)(2) thereof for transactions not involving a public offering.

On December 30, 2016, we issued 12,281 shares of our common stock (1,228 shares of common stock post-reverse stock split) to an investor relations firm, as partial consideration for services rendered pursuant to the terms of an agreement that we entered into with such firm. These shares were issued upon the exemption from the registration provisions of the Securities Act provided for by Section 4(a)(2) thereof for transactions not involving a public offering.

On March 31, 2017, we issued 11,798 shares of our common stock (1,179 shares of common stock post-reverse stock split) to an investor relations firm, as partial consideration for services rendered pursuant to the terms of an agreement that we entered into with such firm. These shares were issued upon the exemption from the registration provisions of the Securities Act provided for by Section 4(a)(2) thereof for transactions not involving a public offering.

On April 28, 2017, we consummated the acquisition of 80% of the outstanding equity of Pelican, a related party, and Pelican became a majority owned subsidiary of ours. In exchange for 80% of the outstanding capital stock of Pelican on a fully diluted basis, we paid to the Pelican Stockholders 1,331,056 shares of our restricted common stock (133,106 shares of common stock post-reverse stock split) representing 4.99% of the outstanding shares of our common stock on the date of the initial execution of the purchase agreement. These shares were issued upon the exemption from the registration provisions of the Securities Act provided for by Section 4(a)(2) thereof and Regulation D promulgated thereunder for transactions not involving a public offering.

On June 30, 2017, we issued 17,213 shares of our common stock (1,721 shares of common stock post-reverse stock split) to an investor relations firm, as partial consideration for services rendered pursuant to the terms of an agreement that we entered into with such firm. These shares were issued upon the exemption from the registration provisions of the Securities Act provided for by Section 4(a)(2) thereof for transactions not involving a public offering.

On September 30, 2017, we issued 7,692 shares of our common stock (769 shares of common stock post-reverse stock split) to an investor relations firm, as partial consideration for services rendered pursuant to the terms of an agreement that we entered into with such firm. These shares were issued upon the exemption from the registration provisions of the Securities Act provided for by Section 4(a)(2) thereof for transactions not involving a public offering.

On December 31, 2017, we issued 13,158 shares of our common stock (1,316 shares of common stock post-reverse stock split) to an investor relations firm, as partial consideration for services rendered pursuant to the terms of an agreement that we entered into with such firm. These shares were issued upon the exemption from the registration provisions of the Securities Act provided for by Section 4(a)(2) thereof for transactions not involving a public offering.

## ITEM 16. EXHIBITS

<u>Exhibit No.</u>	<u>Description</u>
<a href="#">1.1</a>	Common Stock Sales Agreement, by and between Heat Biologics, Inc. and H.C. Wainwright & Co., LLC dated January 18, 2018 (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on January 19, 2018 (Commission File No. 001-35994))
<a href="#">1.2</a>	Form of Underwriting Agreement*
<a href="#">3.1</a>	Third Amended and Restated Certificate of Incorporation, as currently in effect (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
<a href="#">3.2</a>	Certificate of Amendment to the Third Amended and Restated Certificate of Incorporation filed on May 29, 2013 (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 30, 2013 (Commission File No. 333-188365))
<a href="#">3.3</a>	Amended and Restated Bylaws dated January 11, 2016 (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on January 15, 2016 (Commission File No. 001-35994))
<a href="#">3.4</a>	Certificate of Amendment to the Third Amended and Restated Certificate of Incorporation for Increase (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on July 17, 2017 (Commission File No. 001-35994))
<a href="#">3.5</a>	Certificate of Amendment to the Third Amended and Restated Certificate of Incorporation for reverse stock split (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on January 19, 2018 (Commission File No. 001-35994))
<a href="#">4.1</a>	2009 Stock Incentive Plan (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
<a href="#">4.2</a>	First Amendment of the 2009 Stock Incentive Plan (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
<a href="#">4.3</a>	Second Amendment of the 2009 Stock Incentive Plan (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
<a href="#">4.4</a>	Third Amendment of the 2009 Stock Incentive Plan (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
<a href="#">4.5</a>	Fourth Amendment of the 2009 Stock Incentive Plan (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
<a href="#">4.6</a>	Warrant issued to Square 1 Bank (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
<a href="#">4.7</a>	Warrant issued to North Carolina Biotechnology Center (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 30, 2013 (Commission File No. 333-188365))
<a href="#">4.8</a>	Specimen Common Stock Certificate of Heat Biologics, Inc. (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
<a href="#">4.9</a>	Form of Stock Purchase Agreement by and among Heat Biologics, Inc. and the Series B investors (Portions of the exhibit have been omitted pursuant to a request for confidential treatment. The omitted portions have been filed with the Commission) ## (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (File No. 333-188365))
<a href="#">4.10</a>	Form of Representative's Warrant (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 30, 2013 (Commission File No. 333-188365))

- [4.11](#) 2014 Stock Incentive Plan (previously filed as an exhibit to the Registration Statement on Form S-8 with the Securities and Exchange Commission on June 13, 2014 (Commission File No. 333-196763))
- [4.12](#) Warrant issued to Square 1 Bank (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on August 25, 2014 (Commission File No. 001-35994))
- [4.13](#) First Amendment to Loan and Security Agreement (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on June 24, 2015 (Commission File No. 001-35994))
- [4.14](#) Form of Warrant (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on March 3, 2016 (Commission File No. 001-35994))
- [4.15](#) 2017 Stock Incentive Plan (previously filed as an exhibit to the Registration Statement on Form S-8 with the Securities and Exchange Commission on July 11, 2017 (Commission File No. 333-219238))
- [4.16](#) Form of Pre-Funded Warrant\*\*
- [4.17](#) Rights Agreement, dated as of March 11, 2018, between Heat Biologics, Inc. and Continental Stock Transfer & Trust Company, as Rights Agent (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on March 12, 2018 (Commission File No. 001-35994))
- [5.1](#) Legal Opinion of Gracin & Marlow, LLP\*\*
- [10.1](#) License Agreement (UMJ110) between the University of Miami and Heat Biologics, Inc. effective February 18, 2011\*\*\*(previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.2](#) License Agreement (97-14) between the University of Miami and its School of Medicine and Heat Biologics, Inc. effective July 11, 2008\*\*\* (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.3](#) License Agreement (143) between the University of Miami and its School of Medicine and Heat Biologics I, Inc. effective February 11, 2011\*\*\* (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.4](#) License Agreement (D-107) between the University of Miami and its School of Medicine and Heat Biologics I, Inc. effective February 18, 2011\*\*\* (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.5](#) License Agreement (SS114A) between the University of Miami and its School of Medicine and Heat Biologics I, Inc. effective February 18, 2011\*\*\*(previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.6](#) Common Stock Subscription Agreement between the University of Miami and Heat Biologics I, Inc. dated July 7, 2009 (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.7](#) Employment Agreement with Jeffrey Wolf dated December 18, 2009## (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.8](#) Amendment to Employment Agreement with Jeffrey Wolf dated as of January 1, 2011## (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.9](#) Non-Exclusive Evaluation and Biological Material License Agreement with American Type Culture Collection effective April 12, 2011\*\*\* (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.10](#) Manufacturing Services Agreement with Lonza Walkersville, Inc. dated as of October 20, 2011 (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.11](#) Assignment and Assumption Agreement dated June 26, 2009 (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.12](#) Termination Agreement UM97-114 dated June 26, 2009 (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.13](#) Loan and Security Agreement with Square 1 Bank dated August 7, 2012 (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.14](#) Amendment to License Agreement (UM97-14) dated April 29, 2009 (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.15](#) First Amendment to Loan and Security Agreement with Square 1 Bank dated November 30, 2012 (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))



- [10.16](#) Second Amendment to License Agreement (UMSS-114) dated August 11, 2009 (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.17](#) Exclusive License between Heat Biologics, Inc. and the University of Michigan dated July 22, 2011 (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.18](#) Second Amendment to Loan and Security Agreement with Square 1 Bank dated January 14, 2013 (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.19](#) Third Amendment to Loan and Security Agreement with Square 1 Bank dated February 28, 2013 (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.20](#) Fourth Amendment to Loan and Security Agreement with Square 1 Bank dated March 19, 2013 (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.21](#) Option Contract for Exclusive License between Heat Biologics, Inc. and the University of Miami dated April 1, 2013 (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.22](#) Fifth Amendment to the Loan and Security Agreement with Square 1 Bank dated April 18, 2013 (previously filed as an exhibit to the Registration Statement on Form S-1 with the Securities and Exchange Commission on May 6, 2013 (Commission File No. 333-188365))
- [10.23](#) Employment Agreement, dated as of October 1, 2013, by and between Melissa Price and the Company## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on October 1, 2013 (Commission File No. 001-35994))
- [10.24](#) Employment Agreement, dated as of December 16, 2013, by and between Anil K. Goyal and the Company## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on December 19, 2013 (Commission File No. 001-35994))
- [10.25](#) Amendment to Employment Agreement, dated as of January 20, 2014 between the Company and Jeffrey Wolf## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on January 21, 2014 (Commission File No. 001-35994))
- [10.26](#) Amendment to Employment Agreement, dated as of January 20, 2014 between the Company and Melissa Price## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on January 21, 2014 (Commission File No. 001-35994))
- [10.27](#) Employment Agreement, dated as of March 3, 2014 between the Company and Taylor Schreiber ## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on March 5, 2014 (Commission File No. 001-35994))
- [10.28](#) Lease Agreement dated January 24, 2014 (previously filed as an exhibit to the Annual Report on Form 10-K with the Securities and Exchange Commission on March 31, 2014 (Commission File No. 001-35994))
- [10.29](#) License Agreement (UMK-161) between the University of Miami and its School of Medicine and Heat Biologics I, Inc. effective March 4, 2014\*\*\* (previously filed as an exhibit to the Annual Report on Form 10-K with the Securities and Exchange Commission on March 31, 2014 (Commission File No. 001-35994))
- [10.30](#) Loan and Security Agreement dated August 22, 2014 by and between Square 1 Bank, the Company and Heat Biologics I, Inc., Heat Biologics III, Inc. and Heat Biologics IV, Inc. (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on August 25, 2014 (Commission File No. 001-35994))
- [10.31](#) Amendment to Employment Agreement dated January 12, 2015 between the Company and Melissa Price## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on January 16, 2015 (Commission File No. 001-35994))
- [10.32](#) Amendment to Employment Agreement dated January 12, 2015 between the Company and Anil Goyal## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on January 16, 2015 (Commission File No. 001-35994))
- [10.33](#) Amendment to Employment Agreement dated January 12, 2015 between the Company and Taylor Schreiber## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on January 16, 2015 (Commission File No. 001-35994))
- [10.34](#) First Amendment to Lease (previously filed as an exhibit to the Annual Report on Form 10-K with the Securities and Exchange Commission on March 27, 2015 (Commission File No. 001-35994))
- [10.35](#) Second Amendment to Lease (previously filed as an exhibit to the Annual Report on Form 10-K with the Securities and Exchange Commission on March 27, 2015 (Commission File No. 001-35994))
- [10.36](#) Amendment to Employment Agreement between the Company and Taylor Schreiber, M.D., Ph.D., dated July 23, 2015## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on July 27, 2015 (Commission File No. 001-35994))

- [10.37](#) Amendment to Employment Agreement between the Company and Melissa Price, Ph.D., dated July 23, 2015## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on July 27, 2015 (Commission File No. 001-35994))
- [10.38](#) Amended and Restated Heat Biologics, Inc. 2014 Stock Incentive Plan## (previously filed as Appendix A to the Definitive Proxy Statement on Schedule 14A filed with the Securities and Exchange Commission on June 22, 2015))
- [10.39](#) Form of Incentive Stock Option Agreement under the 2014 Stock Incentive Plan, as amended## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on July 27, 2015 (Commission File No. 001-35994))
- [10.40](#) Form of Non-Statutory Stock Option Agreement under the 2014 Stock Incentive Plan, as amended## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on July 27, 2015 (Commission File No. 001-35994))
- [10.41](#) Employment Agreement, dated as of November 30, 2015 between the Company and Timothy Creech## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on December 1, 2015 (Commission File No. 001-35994))
- [10.42](#) Amendment to Employment Agreement between the Company and Jeffrey Wolf, dated January 11, 2016## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on January 15, 2016 (Commission File No. 001-35994))
- [10.43](#) Amendment to Employment Agreement between the Company and Melissa Price, dated January 11, 2016## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on January 15, 2016 (Commission File No. 001-35994))
- [10.44](#) Amendment to Employment Agreement between the Company and Taylor Schreiber, dated January 11, 2016## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on January 15, 2016 (Commission File No. 001-35994))
- [10.45](#) Amendment to Employment Agreement between the Company and Anil Goyal dated January 11, 2016 ##(previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on January 15, 2016 (Commission File No. 001-35994))
- [10.46](#) Amendment to Employment Agreement between the Company and Timothy Creech dated January 11, 2016## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on January 15, 2016 (Commission File No. 001-35994))
- [10.47](#) Second Amendment to Loan and Security Agreement between the Company and Pacific Western Bank and Heat Biologics, Inc., Heat Biologics I, Inc., Heat Biologics III, Inc., and Heat Biologics IV, Inc. dated February 29, 2016 (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on March 3, 2016 (Commission File No. 001-35994))
- [10.48](#) Amendment to Employment Agreement between the Company and Jeffrey Wolf, dated April 1, 2016## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on April 7, 2016 (Commission File No. 001-35994))
- [10.49](#) Amendment to Employment Agreement between the Company and Melissa Price, dated April 1, 2016## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on April 7, 2016 (Commission File No. 001-35994))
- [10.50](#) Amendment to Employment Agreement between the Company and Taylor Schreiber, dated April 1, 2016## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on April 7, 2016 (Commission File No. 001-35994))
- [10.51](#) Employment Agreement between the Company and Ann Rosar, dated April 1, 2016 ## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on April 7, 2016 (Commission File No. 001-35994))
- [10.52](#) Severance Agreement between the Company and Timothy Creech, dated April 5, 2016 (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on April 7, 2016 (Commission File No. 001-35994))
- [10.53](#) Severance Agreement between the Company and Anil Goyal, dated April 5, 2016 (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on April 7, 2016 (Commission File No. 001-35994))
- [10.54](#) Amendment to License Agreement (UM97-14) between the University of Miami and Heat Biologics, Inc. effective July 26, 2016 (previously filed as an exhibit to the Quarterly Report on Form 10-Q with the Securities and Exchange Commission on August 15, 2016 (Commission File No. 001-35994))
- [10.55](#) Form of Indemnification Agreement by and between Heat Biologics, Inc. and its directors and officers (previously filed as an exhibit to the Quarterly Report on Form 10-Q with the Securities and Exchange Commission on August 15, 2016 (Commission File No. 001-35994))
- [10.56](#) Exclusive License Agreement (UMIP-114/Strbo) between the University of Miami and Zolovax, Inc., a wholly-owned subsidiary of Heat Biologics effective October 24, 2016 (previously filed as an exhibit to the Quarterly Report on Form 10-Q with the Securities and Exchange Commission on November 10, 2016 (Commission File No. 001-35994))

- [10.57](#) Amendment to Employment Agreement between the Company and Jeffrey Wolf, dated January 1, 2017## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on January 4, 2017 (Commission File No. 001-35994))
- [10.58](#) Amendment to Employment Agreement between the Company and Ann Rosar, dated January 1, 2017## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on January 4, 2017 (Commission File No. 001-35994))
- [10.59](#) Employment Agreement between the Company and Jeff T. Hutchins, dated January 1, 2017## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on January 4, 2017 (Commission File No. 001-35994))
- [10.60](#) Form of Restricted Stock Unit Award Agreement## (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on January 4, 2017 (Commission File No. 001-35994))
- [10.61](#) Stock Purchase Agreement by and among Heat Biologics, Inc., with Pelican Therapeutics, Inc. (“Pelican”), and certain stockholders in Pelican (previously filed as an exhibit to the Current Report on Form 8-K with the Securities and Exchange Commission on March 8, 2017 (Commission File No. 001-35994))
- [10.62](#) First Amendment to Exclusive License Agreement between The Regents of The University of Michigan and Heat Biologics, Inc. (UM File Number 3680) dated December 1, 2016 (previously filed as an exhibit to the Annual Report on Form 10-K with the Securities and Exchange Commission on March 31, 2017 (Commission File No. 001-35994))
- [10.63](#) First Amendment to Stock Purchase Agreement dated March 29, 2017 by and among Heat Biologics, Inc., Pelican Therapeutics, Inc. and Josiah Hornblower as representative of the Stockholders (previously filed as an exhibit to the Annual Report on Form 10-K with the Securities and Exchange Commission on March 31, 2017 (Commission File No. 001-35994))
- [10.64](#) Funding Commitment issued by Heat Biologics, Inc. dated April 6, 2017 (previously filed as an exhibit to Heat Biologics, Inc.’s Current Report on Form 8-K filed with the Securities and Exchange Commission on April 7, 2017 (Commission File No. 001-35994))
- [10.65](#) License Agreement by and between University of Miami and Pelican Therapeutics, Inc. (f/k/a Heat Biologics II, Inc.) dated July 11, 2008 (UM03-31, UM05-39) (previously filed as an exhibit to Heat Biologics, Inc.’s Current Report on Form 8-K filed with the Securities and Exchange Commission on May 3, 2017 (Commission File No. 001-35994))
- [10.66](#) License Agreement by and between University of Miami and Pelican Therapeutics, Inc. (f/k/a Heat Biologics II, Inc.) dated December 12, 2010 (UMI176) (previously filed as an exhibit to Heat Biologics, Inc.’s Current Report on Form 8-K filed with the Securities and Exchange Commission on May 3, 2017 (Commission File No. 001-35994))
- [10.67](#) License Agreement by and between University of Miami and Pelican Therapeutics, Inc. (f/k/a Heat Biologics II, Inc.) dated November 19, 2013 (UM-143 and UMN-106) (previously filed as an exhibit to Heat Biologics, Inc.’s Current Report on Form 8-K filed with the Securities and Exchange Commission on May 3, 2017 (Commission File No. 001-35994))
- [10.68](#) Amendment to License Agreement between Heat Biologics, Inc. and University of Miami dated April 20, 2009 (previously filed as an exhibit to Heat Biologics, Inc.’s Current Report on Form 8-K filed with the Securities and Exchange Commission on May 3, 2017 (Commission File No. 001-35994))
- [10.69](#) Assignment and Assumption Agreement between Heat Biologics, Inc. and Pelican Therapeutics, Inc. (f/k/a Heat Biologics II, Inc.) dated June 26, 2009 (UM03-31, UM05-39) (previously filed as an exhibit to Heat Biologics, Inc.’s Current Report on Form 8-K filed with the Securities and Exchange Commission on May 3, 2017 (Commission File No. 001-35994))
- [10.70](#) Second Amendment to License Agreement between Pelican Therapeutics, Inc. (f/k/a Heat Biologics II, Inc.) and University of Miami dated August 11, 2009 (UM03-31, UM05-39) (previously filed as an exhibit to Heat Biologics, Inc.’s Current Report on Form 8-K filed with the Securities and Exchange Commission on May 3, 2017 (Commission File No. 001-35994))
- [10.71](#) Payment Agreement between Pelican Therapeutics, Inc. (f/k/a Heat Biologics II, Inc.) dated December 19, 2012 (UMI176) (previously filed as an exhibit to Heat Biologics, Inc.’s Current Report on Form 8-K filed with the Securities and Exchange Commission on May 3, 2017 (Commission File No. 001-35994))
- [10.72](#) CPRIT Grant (previously filed as an exhibit to Heat Biologics, Inc.’s Current Report on Form 8-K filed with the Securities and Exchange Commission on May 3, 2017 (Commission File No. 001-35994))
- [10.73](#) Amendment to Employment Agreement with Jeff T. Hutchins dated as of June 29, 2017## (filed as an exhibit to Heat Biologics, Inc.’s Current Report on Form 8-K filed with the Securities and Exchange Commission on June 30, 2017 (Commission File No. 001-35994))
- [10.74](#) Amendment to Employment Agreement with Ann Rosar dated as of June 29, 2017## (previously filed as an exhibit to Heat Biologics, Inc.’s Current Report on Form 8-K filed with the Securities and Exchange Commission on June 30, 2017 (Commission File No. 001-35994))
- [10.75](#) Amendment to Employment Agreement with Jeff T. Hutchins dated as of January 1, 2018## (previously filed as an exhibit to Heat Biologics, Inc.’s Current Report on Form 8-K filed with the Securities and Exchange Commission on January 10, 2018 (Commission File No. 001-35994))

<a href="#">10.76</a>	Amendment to Employment Agreement with Ann Rosar dated as of January 1, 2018## (previously filed as an exhibit to Heat Biologics, Inc.'s Current Report on Form 8-K filed with the Securities and Exchange Commission on January 10, 2018 (Commission File No. 001-35994))
<a href="#">10.77</a>	Form of Incentive Stock Option Agreement under the 2017 Stock Incentive Plan## (previously filed as an exhibit to Heat Biologics, Inc.'s Current Report on Form 10-K filed with the Securities and Exchange Commission on March 2, 2018 (Commission File No. 001-35994))
<a href="#">10.78</a>	Form of Non-Statutory Stock Option Agreement under the 2017 Stock Incentive Plan## (previously filed as an exhibit to Heat Biologics, Inc.'s Current Report on Form 10-K filed with the Securities and Exchange Commission on March 2, 2018 (Commission File No. 001-35994))
<a href="#">10.79</a>	Form of Restricted Stock Unit Award Agreement under the 2017 Stock Incentive Plan## (previously filed as an exhibit to Heat Biologics, Inc.'s Current Report on Form 10-K filed with the Securities and Exchange Commission on March 2, 2018 (Commission File No. 001-35994))
<a href="#">21.1</a>	List of Subsidiaries (previously filed as Exhibit 21.1 to Heat Biologics, Inc.'s Annual Report on Form 10-K (Commission File No. 001-35994)) filed with the Securities and Exchange Commission on March 2, 2018)
<a href="#">23.1</a>	Consent of BDO USA, LLP, Independent Registered Public Accounting Firm*
<a href="#">23.2</a>	Consent of Gracin & Marlow, LLP (contained in Exhibit 5.1)**
<a href="#">24.1</a>	Power of Attorney (included on the signature page of this Registration Statement)**

\* Filed herewith.

\*\* Previously filed.

\*\*\* Confidential treatment has been requested as to certain portions of this exhibit pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

## Management contract or compensatory plan or arrangement required to be identified pursuant to Item 15(a)(3) of this report.

## ITEM 17. UNDERTAKINGS

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933 (the "Securities Act");

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

Provided, however, that Paragraphs (a)(1)(i), (ii), and (iii) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act to any purchaser: If the registrant is subject to Rule 430C (§230.430C of this chapter), each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A (§230.430A of this chapter), shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(5) That, for the purpose of determining liability under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424 (§230.424 of this chapter);

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) The undersigned registrant hereby undertakes to supplement the prospectus, after the expiration of the subscription period, to set forth the results of the subscription offer, the transactions by the underwriters during the subscription period, the amount of unsubscribed securities to be purchased by the underwriters, and the terms of any subsequent reoffering thereof. If any public offering by the underwriters is to be made on terms differing from those set forth on the cover page of the prospectus, a post-effective amendment will be filed to set forth the terms of such offering.

(d) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Company pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

(e) For the purpose of determining any liability under the Securities Act, the registrant will treat the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant under Rule 424(b)(1), or (4), or 497(h) under the Securities Act as part of this registration statement as of the time the Commission declared it effective.

(f) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this Amendment No. 2 to Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Durham, State of North Carolina, April 26, 2018.

HEAT BIOLOGICS, INC.

By:  /s/ Jeffrey Wolf  
 Name: Jeffrey Wolf  
 Title: Chairman and Chief Executive Officer

Pursuant to the requirements of the Securities Act 1933, this report has been signed by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u> /s/ Jeffrey Wolf</u> Jeffrey Wolf	Chief Executive Officer, President and Chairman (Principal Executive Officer)	April 26, 2018
<u> /s/ Ann Rosar</u> Ann Rosar	Vice President of Finance (Principal Financial and Accounting Officer)	April 26, 2018
<u> *</u> John Monahan, Ph.D.	Director	April 26, 2018
<u> *</u> John Prendergast, Ph.D.	Director	April 26, 2018
<u> *</u> Edward B. Smith	Director	April 26, 2018

\*  /s/ Jeffrey Wolf  
 By: Jeffrey Wolf  
 Attorney-in-Fact

**UNDERWRITING AGREEMENT**

**between**

**HEAT BIOLOGICS, INC.**

**and**

**A.G.P./ALLIANCE GLOBAL PARTNERS,**

**as Representative of the Several Underwriters**

---

**HEAT BIOLOGICS, INC.**  
**UNDERWRITING AGREEMENT**

New York, New York  
[ ], 2018

A.G.P./Alliance Global Partners  
As Representative of the several Underwriters named on Schedule 1 attached hereto  
590 Madison Avenue, 36<sup>th</sup> Floor  
New York, New York 10022  
Ladies and Gentlemen:

The undersigned, Heat Biologics, Inc., a corporation formed under the laws of the State of Delaware (collectively with its subsidiaries and affiliates, including, without limitation, all entities disclosed or described in the Registration Statement (as hereinafter defined) as being subsidiaries or affiliates of Heat Biologics, Inc., the “**Company**”), hereby confirms its agreement (this “**Agreement**”) with A.G.P./Alliance Global Partners (hereinafter referred to as “you” (including its correlatives) or the “**Representative**”) and with the other underwriters named on Schedule 1 hereto for which the Representative is acting as representative (the Representative and such other underwriters being collectively called the “**Underwriters**” or, individually, an “**Underwriter**”) as follows:

1. Purchase and Sale of Securities.

1.1 Firm Securities.

1.1.1 Nature and Purchase of Firm Securities.

(i) On the basis of the representations and warranties herein contained, but subject to the terms and conditions herein set forth, the Company agrees to issue and sell to the several Underwriters, an aggregate of [ ] shares (“**Firm Shares**”) of the Company’s common stock, par value \$0.0002 per share (the “**Common Stock**”), and an aggregate of [ ] pre-funded warrants (the “**Pre-Funded Warrants**”) in the form filed as an exhibit to the Registration Statement (as hereinafter defined) (the “**Pre-Funded Warrant Agreement**”) exercisable into an aggregate of [ ] shares of Common Stock (the “**Warrant Shares**”). The Firm Shares and the Pre-Funded Warrants are referred to herein as the “**Firm Securities**.”

(ii) The Underwriters, severally and not jointly, agree to purchase from the Company the number of Firm Securities set forth opposite their respective names on Schedule 1 attached hereto and made a part hereof at a purchase price of \$[ ] per share (93% of the per Firm Share offering price) and \$[ ] per Pre-Funded Warrant (93% of the per Pre-Funded Warrant offering price). The Firm Securities are to be offered initially to the public at the offering price set forth on the cover page of the Prospectus (as defined in Section 2.1.1 hereof).

1.1.2 Shares Payment and Delivery.

(i) Delivery and payment for the Firm Securities shall be made at 10:00 a.m., Eastern time, on the second (2nd) Business Day following the effective date (the “**Effective Date**”) of the Registration Statement (as defined in Section 2.1.1 below) under the Securities Act of 1933, as amended (the “**Securities Act**”) (or the third (3rd) Business Day following the Effective Date if the pricing for the Offering (as defined in Section 2.1.1 below) occurs after 4:01 p.m., Eastern time on the Effective Date) or at



such earlier time as shall be agreed upon by the Representative and the Company, at the offices of Zysman, Aharoni, Gayer and Sullivan & Worcester LLP, 1633 Broadway, New York, New York 10019 (“ **Representative Counsel** ”), or at such other place (or remotely by facsimile or other electronic transmission) as shall be agreed upon by the Representative and the Company. The hour and date of delivery and payment for the Firm Securities is called the “ **Closing Date** .”

(ii) Payment for the Firm Securities shall be made on the Closing Date by wire transfer in Federal (same day) funds, payable to the order of the Company upon delivery of the Firm Securities, of which the Firm Shares shall be delivered via the Depository Trust Company (“ **DTC** ”) and the Pre-Funded Warrants shall be delivered in certificated form, for the account of the Underwriters. The Firm Securities shall be registered in such name or names and in such authorized denominations as the Representative may request in writing at least two (2) full Business Days prior to the Closing Date. The Company shall not be obligated to sell or deliver the Firm Securities except upon tender of payment by the Representative for all of the Firm Securities. The term “ **Business Day** ” means any day other than a Saturday, a Sunday or a legal holiday or a day on which banking institutions are authorized or obligated by law to close in New York, New York.

## 1.2 Over-allotment Option.

1.2.1 Option Securities. For the purposes of covering any over-allotments in connection with the distribution and sale of the Firm Securities, the Company hereby grants to the Representative an option to purchase up to [ ] additional shares of Common Stock, representing fifteen percent (15%) of the Firm Shares sold in the offering together with the Warrant Shares, from the Company (the “ **Over-allotment Option** ”). Such [ ] additional shares of Common Stock, the net proceeds of which will be deposited with the Company’s account, are hereinafter referred to as “ **Option Shares** .” The purchase price to be paid per Option Share shall be equal to the price per Firm Share set forth in Section 1.1.1 hereof. The Firm Securities, the Warrant Shares and the Option Shares are hereinafter referred to together as the “ **Public Securities** .” The offering and sale of the Public Securities is hereinafter referred to as the “ **Offering** .”

1.2.2 Exercise of Option. The Over-allotment Option granted pursuant to Section 1.2.1 hereof may be exercised by the Representative as to all (at any time) or any part (from time to time) of the Option Shares within 45 days after the Effective Date. The Underwriters shall not be under any obligation to purchase any Option Shares prior to the exercise of the Over-allotment Option. The Over-allotment Option granted hereby may be exercised by the giving of oral notice to the Company from the Representative, which must be confirmed in writing by overnight mail or facsimile or other electronic transmission setting forth the number of Option Shares to be purchased and the date and time for delivery of and payment for the Option Shares (the “ **Option Closing Date** ”), which shall not be later than five (5) full Business Days after the date of the notice or such other time as shall be agreed upon by the Company and the Representative, at the offices of Representative Counsel or at such other place (including remotely by facsimile or other electronic transmission) as shall be agreed upon by the Company and the Representative. If such delivery and payment for the Option Shares does not occur on the Closing Date, the Option Closing Date will be as set forth in the notice. Upon exercise of the Over-allotment Option with respect to all or any portion of the Option Shares, subject to the terms and conditions set forth herein, (i) the Company shall become obligated to sell to the Underwriters the number of Option Shares specified in such notice and (ii) each of the Underwriters, acting severally and not jointly, shall purchase that portion of the total number of Option Shares then being purchased as set forth in Schedule 1 opposite the name of such Underwriter.

1.2.3 Payment and Delivery. Payment for the Option Shares shall be made on the Option Closing Date by wire transfer in Federal (same day) funds, payable to the order of the Company upon delivery to you of certificates (in form and substance satisfactory to the Underwriters) representing the

Option Shares (or through the facilities of DTC) for the account of the Underwriters. The Option Shares shall be registered in such name or names and in such authorized denominations as the Representative may request in writing at least two (2) full Business Days prior to the Option Closing Date. The Company shall not be obligated to sell or deliver the Option Shares except upon tender of payment by the Representative for applicable Option Shares.

2. Representations and Warranties of the Company. The Company represents and warrants to the Underwriters as of the Applicable Time (as defined below), as of the Closing Date and as of the Option Closing Date, if any, as follows:

2.1 Filing of Registration Statement.

2.1.1 Pursuant to the Securities Act. The Company has filed with the U.S. Securities and Exchange Commission (the “**Commission**”) a registration statement, and an amendment or amendments thereto, on Form S-1 (File No. 333-224039), including any related prospectus or prospectuses, for the registration of the Public Securities under the Securities Act, which registration statement and amendment or amendments have been prepared by the Company in all material respects in conformity with the requirements of the Securities Act and the rules and regulations of the Commission under the Securities Act (the “**Securities Act Regulations**”) and will contain all material statements that are required to be stated therein in accordance with the Securities Act and the Securities Act Regulations. Except as the context may otherwise require, such registration statement, as amended, on file with the Commission at the time the registration statement became effective (including the Preliminary Prospectus included in the registration statement, financial statements, schedules, exhibits and all other documents filed as a part thereof or incorporated therein and all information deemed to be a part thereof as of the Effective Date pursuant to paragraph (b) of Rule 430A of the Securities Act Regulations (the “**Rule 430A Information**”), is referred to herein as the “**Registration Statement**.” If the Company files any registration statement pursuant to Rule 462(b) of the Securities Act Regulations, then after such filing, the term “**Registration Statement**” shall include such registration statement filed pursuant to Rule 462(b). The Registration Statement has been declared effective by the Commission on the date hereof.

Each prospectus used prior to the effectiveness of the Registration Statement, and each prospectus that omitted the Rule 430A Information that was used after such effectiveness and prior to the execution and delivery of this Agreement, is herein called a “**Preliminary Prospectus**.” The Preliminary Prospectus, subject to completion, dated [•], 2018, that was included in the Registration Statement immediately prior to the Applicable Time is hereinafter called the “**Pricing Prospectus**.” The final prospectus in the form first furnished to the Underwriters for use in the Offering is hereinafter called the “**Prospectus**.” Any reference to the “**most recent Preliminary Prospectus**” shall be deemed to refer to the latest Preliminary Prospectus included in the Registration Statement.

“**Applicable Time**” means [ ]:00 p.m., Eastern time, on the date of this Agreement.

“**Issuer Free Writing Prospectus**” means any “issuer free writing prospectus,” as defined in Rule 433 of the Securities Act Regulations (“**Rule 433**”), including without limitation any “free writing prospectus” (as defined in Rule 405 of the Securities Act Regulations) relating to the Public Securities that is (i) required to be filed with the Commission by the Company, (ii) a “road show that is a written communication” within the meaning of Rule 433(d)(8)(i), whether or not required to be filed with the Commission, or (iii) exempt from filing with the Commission pursuant to Rule 433(d)(5)(i) because it contains a description of the Public Securities or of the Offering that does not reflect the final terms, in each case in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company’s records pursuant to Rule 433(g).

“ **Issuer General Use Free Writing Prospectus** ” means any Issuer Free Writing Prospectus that is intended for general distribution to prospective investors (other than a “ *bona fide* electronic road show,” as defined in Rule 433), as evidenced by its being specified in Schedule 2-B hereto.

“ **Issuer Limited Use Free Writing Prospectus** ” means any Issuer Free Writing Prospectus that is not an Issuer General Use Free Writing Prospectus.

“ **Pricing Disclosure Package** ” means any Issuer General Use Free Writing Prospectus issued at or prior to the Applicable Time, the Pricing Prospectus and the information included on Schedule 2-A hereto, all considered together.

2.1.2 Pursuant to the Exchange Act. The shares of Common Stock are registered pursuant to Section 12(b) under the Securities Exchange Act of 1934, as amended (the “ **Exchange Act** ”). The Company has taken no action designed to, or likely to have the effect of, terminating the registration of the shares of Common Stock under the Exchange Act, nor has the Company received any notification that the Commission is contemplating terminating such registration.

2.2 Stock Exchange Listing. The shares of Common Stock are listed on The NASDAQ Capital Market (the “ **Exchange** ”), and the Company has taken no action designed to, or likely to have the effect of, delisting the shares of Common Stock from the Exchange, nor has the Company received any notification that the Exchange is contemplating terminating such listing except as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus. The Company has submitted the Listing of Additional Shares Notification Form with the Exchange with respect to the Offering of the Public Securities (including the Warrant Shares).

2.3 No Stop Orders, etc. Neither the Commission nor, to the Company’s knowledge, any state regulatory authority has issued any order preventing or suspending the use of the Registration Statement, any Preliminary Prospectus or the Prospectus or has instituted or, to the Company’s knowledge, threatened to institute, any proceedings with respect to such an order. The Company has complied with each request (if any) from the Commission for additional information.

2.4 Disclosures in Registration Statement.

2.4.1 Compliance with Securities Act and 10b-5 Representation.

(i) Each of the Registration Statement and any post-effective amendment thereto, at the time it became effective, complied in all material respects with the requirements of the Securities Act and the Securities Act Regulations. Each Preliminary Prospectus, including the prospectus filed as part of the Registration Statement as originally filed or as part of any amendment or supplement thereto, and the Prospectus, at the time each was filed with the Commission, complied in all material respects with the requirements of the Securities Act and the Securities Act Regulations. Each Preliminary Prospectus delivered to the Underwriters for use in connection with this Offering and the Prospectus was or will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

(ii) Neither the Registration Statement nor any amendment thereto, at its effective time, as of the Applicable Time, at the Closing Date or at any Option Closing Date (if any), contained, contains or will contain an untrue statement of a material fact or omitted, omits or will omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading.

(iii) The Pricing Disclosure Package, as of the Applicable Time, at the Closing Date or at any Option Closing Date (if any), did not, does not and will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; and any Issuer Limited Use Free Writing Prospectus hereto does not conflict with the information contained in the Registration Statement, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus, and each such Issuer Limited Use Free Writing Prospectus, as supplemented by and taken together with the Prospectus as of the Applicable Time, did not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading; *provided, however*, that this representation and warranty shall not apply to statements made or statements omitted in reliance upon and in conformity with written information furnished to the Company with respect to the Underwriters by the Representative expressly for use in the Registration Statement, the Pricing Prospectus, the Pricing Disclosure Package or the Prospectus or any amendment thereof or supplement thereto. The parties acknowledge and agree that such information provided by or on behalf of any Underwriter consists solely of the following statements concerning the Underwriters (the “**Underwriters Information**”) contained in “Underwriting” section of the Prospectus: (i) the first, second, third and sixth sentences of the section entitled “Discount, Commissions and Expenses”; (ii) the section entitled “Price Stabilization, Short Positions and Penalty Bids”; and (iii) the section entitled “Passive Market Making”.

(iv) Neither the Prospectus nor any amendment or supplement thereto (including any prospectus wrapper), as of its issue date, at the time of any filing with the Commission pursuant to Rule 424(b), at the Closing Date or at any Option Closing Date, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; *provided, however*, that this representation and warranty shall not apply to the Underwriters’ Information.

(v) The documents incorporated by reference in the Registration Statement, the Pricing Prospectus, the Pricing Disclosure Package and the Prospectus, when they became effective or were filed with the Commission, as the case may be, conformed in all material respects to the requirements of the Securities Act or the Exchange Act, as applicable, and the rules and regulations of the Commission thereunder and none of such documents contained any untrue statement of a material fact or omitted to state any material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; and any further documents so filed and incorporated by reference in the Registration Statement, the Pricing Prospectus, the Pricing Disclosure Package and the Prospectus, when such documents become effective or are filed with the Commission, as the case may be, will conform in all material respects to the requirements of the Securities Act or the Exchange Act, as applicable, and the rules and regulations of the Commission thereunder, and will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

2.4.2 Disclosure of Agreements. The agreements and documents described in the Registration Statement, the Pricing Disclosure Package and the Prospectus conform in all material respects to the descriptions thereof contained or incorporated by reference therein and there are no agreements or other documents required by the Securities Act and the Securities Act Regulations to be described in the Registration Statement, the Pricing Disclosure Package and the Prospectus or to be filed with the Commission as exhibits to the Registration Statement or to be incorporated by reference in the Registration Statement, the Pricing Disclosure Package or the Prospectus, that have not been so described or filed or incorporated by reference. Each agreement or other instrument (however characterized or described) to which the Company is a party or by which it is or may be bound or affected and (i) that is referred to or

incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus, or (ii) is material to the Company's business, has been duly authorized and validly executed by the Company, is in full force and effect in all material respects and is enforceable against the Company and, to the Company's knowledge, the other parties thereto, in accordance with its terms, except (x) as such enforceability may be limited by bankruptcy, insolvency, reorganization or similar laws affecting creditors' rights generally, (y) as enforceability of any indemnification or contribution provision may be limited under the federal and state securities laws, and (z) that the remedy of specific performance and injunctive and other forms of equitable relief may be subject to the equitable defenses and to the discretion of the court before which any proceeding therefor may be brought. None of such agreements or instruments has been assigned by the Company, and neither the Company nor, to the Company's knowledge, any other party is in default thereunder and, to the Company's knowledge, no event has occurred that, with the lapse of time or the giving of notice, or both, would constitute a default thereunder except for a default or event which would not reasonably be expected to result in a Material Adverse Change (as such term is defined in Section 2.5.1 below). To the Company's knowledge, performance by the Company of the material provisions of such agreements or instruments will not result in a violation of any existing applicable law, rule, regulation, judgment, order or decree of any governmental agency or court, domestic or foreign, having jurisdiction over the Company or any of its assets or businesses (each, a "**Governmental Entity**"), including, without limitation, those relating to environmental laws and regulations.

2.4.3 Prior Securities Transactions. Since July 23, 2013, no securities of the Company have been sold by the Company or by or on behalf of, or for the benefit of, any person or persons controlling, controlled by or under common control with the Company, except as disclosed in the Registration Statement, the Pricing Disclosure Package and the Preliminary Prospectus.

2.4.4 Regulations. The disclosures in the Registration Statement, the Pricing Disclosure Package and the Prospectus concerning the effects of federal, state, local and all foreign regulation on the Offering and the Company's business as currently contemplated are correct in all material respects and no other such regulations are required to be disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus which are not so disclosed.

2.4.5 No Other Distribution of Offering Materials. The Company has not, directly or indirectly, distributed and will not distribute any offering material in connection with the Offering other than any Preliminary Prospectus, the Pricing Prospectus, the Pricing Disclosure Package, the Prospectus and other materials, if any, permitted under the Securities Act and consistent with Section 3.2 below.

## 2.5 Changes After Dates in Registration Statement.

2.5.1 No Material Adverse Change. Since the respective dates as of which information is given in the Registration Statement, the Pricing Disclosure Package and the Prospectus, except as otherwise specifically stated therein and except in accordance with its ordinary operations: (i) there has been no material adverse change in the financial position or results of operations of the Company, nor any change or development that, singularly or in the aggregate, would involve a material adverse change, in or affecting the condition (financial or otherwise), results of operations, business, assets or prospects of the Company (a "**Material Adverse Change**"); (ii) there have been no material transactions entered into by the Company, other than as contemplated pursuant to this Agreement; and (iii) no officer or director of the Company has resigned from any position with the Company.

2.5.2 Recent Securities Transactions, etc. Subsequent to the respective dates as of which information is given in the Registration Statement, the Pricing Disclosure Package and the Prospectus, and except as may otherwise be indicated or contemplated herein or disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company has not: (i) issued

any securities or incurred any liability or obligation, direct or contingent, for borrowed money other than under its existing loan agreements or in the ordinary course of business; or (ii) declared or paid any dividend or made any other distribution on or in respect to its capital stock.

2.6 Disclosures in Commission Filings. Since July 23, 2013, (i) none of the Company's filings with the Commission contained any untrue statement of a material fact or omitted to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; and (ii) the Company has made all filings with the Commission required under the Exchange Act and the rules and regulations of the Commission promulgated thereunder (the "**Exchange Act Regulations**").

2.7 Independent Accountants. To the knowledge of the Company, BDO USA, LLP (the "**Auditor**"), whose report is filed with the Commission and included or incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus, is an independent registered public accounting firm as required by the Securities Act and the Securities Act Regulations and the Public Company Accounting Oversight Board. The Auditor has not, during the periods covered by the financial statements included or incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus, provided to the Company any non-audit services, as such term is used in Section 10A(g) of the Exchange Act.

2.8 Financial Statements, etc. The financial statements, including the notes thereto and supporting schedules included or incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus, fairly present the financial position and the results of operations of the Company at the dates and for the periods to which they apply; and such financial statements have been prepared in conformity with U.S. generally accepted accounting principles ("**GAAP**"), consistently applied throughout the periods involved (provided that unaudited interim financial statements are subject to year-end audit adjustments that are not expected to be material in the aggregate and do not contain all footnotes required by GAAP); and the supporting schedules included or incorporated by reference in the Registration Statement present fairly the information required to be stated therein. The pro forma financial statements and the related notes, if any, included or incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus have been properly compiled and prepared in accordance with the applicable requirements of the Securities Act, the Securities Act Regulations, the Exchange Act or the Exchange Act Regulations and present fairly the information shown therein, and the assumptions used in the preparation thereof are reasonable and the adjustments used therein are appropriate to give effect to the transactions and circumstances referred to therein. Except as included therein, no historical or pro forma financial statements are required to be included in the Registration Statement, the Pricing Disclosure Package or the Prospectus under the Securities Act, the Securities Act Regulations, the Exchange Act or the Exchange Act Regulations. The pro forma and pro forma as adjusted financial information and the related notes, if any, included or incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus have been properly compiled and prepared in accordance with the applicable requirements of the Securities Act, the Securities Act Regulations, the Exchange Act or the Exchange Act Regulations and present fairly the information shown therein, and the assumptions used in the preparation thereof are reasonable and the adjustments used therein are appropriate to give effect to the transactions and circumstances referred to therein. All disclosures contained in the Registration Statement, the Pricing Disclosure Package or the Prospectus, or incorporated or deemed incorporated by reference therein, regarding "non-GAAP financial measures" (as such term is defined by the rules and regulations of the Commission), if any, comply with Regulation G of the Exchange Act and Item 10 of Regulation S-K of the Securities Act, to the extent applicable. Each of the Registration Statement, the Pricing Disclosure Package and the Prospectus discloses all material off-balance sheet transactions, arrangements, obligations (including contingent obligations), and other relationships of the Company with unconsolidated entities or other persons that may have a material current or future effect on

the Company's financial condition, changes in financial condition, results of operations, liquidity, capital expenditures, capital resources, or significant components of revenues or expenses. Except as disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus, (a) neither the Company nor any of its direct and indirect subsidiaries, including each entity disclosed or described in the Registration Statement, the Pricing Disclosure Package and the Prospectus as being a subsidiary of the Company (each, a " **Subsidiary** " and, collectively, the " **Subsidiaries** "), has incurred any material liabilities or obligations, direct or contingent, or entered into any material transactions other than in the ordinary course of business, (b) the Company has not declared or paid any dividends or made any distribution of any kind with respect to its capital stock, (c) there has not been any change in the capital stock of the Company or any of its Subsidiaries, or, other than in the course of business or any grants under any stock compensation plan, and (d) there has not been any Material Adverse Change in the Company's long-term or short-term debt.

2.9 Authorized Capital; Options, etc. . The Company had, at the date or dates indicated in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the duly authorized, issued and outstanding capitalization as set forth therein. Based on the assumptions stated in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company will have on the Closing Date the adjusted stock capitalization set forth therein. Except as set forth in, or contemplated by, the Registration Statement, the Pricing Disclosure Package and the Prospectus, on the Effective Date, as of the Applicable Time and on the Closing Date and any Option Closing Date, there will be no stock options, warrants, or other rights to purchase or otherwise acquire any authorized, but unissued shares of Common Stock of the Company or any security convertible or exercisable into shares of Common Stock of the Company, or any contracts or commitments to issue or sell shares of Common Stock or any such options, warrants, rights or convertible securities.

2.10 Valid Issuance of Securities, etc.

2.10.1 Outstanding Securities. Since July 23, 2013, all issued and outstanding securities of the Company issued prior to the transactions contemplated by this Agreement have been duly authorized and validly issued and are fully paid and non-assessable; the holders thereof have no rights of rescission with respect thereto, and are not subject to personal liability by reason of being such holders; and none of such securities were issued in violation of the preemptive rights of any holders of any security of the Company or similar contractual rights granted by the Company. The authorized shares of Common Stock conform in all material respects to all statements relating thereto contained in the Registration Statement, the Pricing Disclosure Package and the Prospectus. The offers and sales of the outstanding shares of Common Stock were at all relevant times either registered under the Securities Act and the applicable state securities or "blue sky" laws or, based in part on the representations and warranties of the purchasers of such Shares, exempt from such registration requirements.

2.10.2 Securities Sold Pursuant to this Agreement. The Public Securities have been duly authorized for issuance and sale and, when issued and paid for, will be validly issued, fully paid and non-assessable; the holders thereof are not and will not be subject to personal liability by reason of being such holders; the Public Securities are not and will not be subject to the preemptive rights of any holders of any security of the Company or similar contractual rights granted by the Company; and all corporate action required to be taken for the authorization, issuance and sale of the Public Securities has been duly and validly taken. The Public Securities conform in all material respects to all statements with respect thereto contained in the Registration Statement, the Pricing Disclosure Package and the Prospectus. All corporate action required to be taken for the authorization, issuance and sale of the Pre-Funded Warrants has been duly and validly taken; the Warrant Shares have been duly authorized and reserved for issuance by all necessary corporate action on the part of the Company and when paid for and issued in accordance with the Pre-Funded Warrant Agreement, such shares of Common Stock will be validly issued, fully paid and non-assessable; the holders thereof are not and will not be subject to personal liability by reason of being

such holders; and such shares of Common Stock are not and will not be subject to the preemptive rights of any holders of any security of the Company or similar contractual rights granted by the Company.

2.11 Registration Rights of Third Parties. Except as set forth in the Registration Statement, the Pricing Disclosure Package and the Prospectus, no holders of any securities of the Company or any rights exercisable for or convertible or exchangeable into securities of the Company have the right to require the Company to register any such securities of the Company under the Securities Act or to include any such securities in a registration statement to be filed by the Company.

2.12 Validity and Binding Effect of Agreements. This Agreement and the Pre-Funded Warrant Agreement have been duly and validly authorized by the Company, and, when executed and delivered, will constitute, the valid and binding agreements of the Company, enforceable against the Company in accordance with their respective terms, except: (i) as such enforceability may be limited by bankruptcy, insolvency, reorganization or similar laws affecting creditors' rights generally; (ii) as enforceability of any indemnification or contribution provision may be limited under the federal and state securities laws; and (iii) that the remedy of specific performance and injunctive and other forms of equitable relief may be subject to the equitable defenses and to the discretion of the court before which any proceeding therefor may be brought.

2.13 No Conflicts, etc. The execution, delivery and performance by the Company of this Agreement, the Pre-Funded Warrant Agreement and all ancillary documents, the consummation by the Company of the transactions herein and therein contemplated and the compliance by the Company with the terms hereof and thereof do not and will not, with or without the giving of notice or the lapse of time or both: (i) result in a material breach of, or conflict with any of the terms and provisions of, or constitute a material default under, or result in the creation, modification, termination or imposition of any lien, charge or encumbrance upon any property or assets of the Company pursuant to the terms of any agreement or instrument to which the Company is a party; (ii) result in any violation of the provisions of the Company's Certificate of Incorporation (as the same may be amended or restated from time to time, the "**Charter**") or the by-laws of the Company (as the same may be amended or restated from time to time); or (iii) violate any existing applicable law, rule, regulation, judgment, order or decree of any Governmental Entity as of the date hereof (including, without limitation, those promulgated by the Food and Drug Administration of the U.S. Department of Health and Human Services (the "**FDA**") or by any foreign, federal, state or local regulatory authority performing functions similar to those performed by the FDA).

2.14 No Defaults; Violations. No material default exists in the due performance and observance of any term, covenant or condition of any material license, contract, indenture, mortgage, deed of trust, note, loan or credit agreement, or any other agreement or instrument evidencing an obligation for borrowed money, or any other material agreement or instrument to which the Company is a party or by which the Company may be bound or to which any of the properties or assets of the Company is subject. The Company is not in violation of any term or provision of its Charter or by-laws, or in violation of any franchise, license, permit, applicable law, rule, regulation, judgment or decree of any Governmental Entity.

2.15 Corporate Power; Licenses; Consents.

2.15.1 Conduct of Business. Except as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company has all requisite corporate power and authority, and has all necessary authorizations, approvals, orders, licenses, certificates and permits of and from all governmental regulatory officials and bodies that it needs as of the date hereof to conduct its business purpose as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus.



2.15.2 Transactions Contemplated Herein. The Company has all corporate power and authority to enter into this Agreement and to carry out the provisions and conditions hereof, and all consents, authorizations, approvals and orders required in connection therewith have been obtained. No consent, authorization or order of, and no filing with, any court, government agency or other body is required for the valid issuance, sale and delivery of the Public Securities and the consummation of the transactions and agreements contemplated by this Agreement and the Pre-Funded Warrant Agreement and as contemplated by the Registration Statement, the Pricing Disclosure Package and the Prospectus, except with respect to applicable federal and state securities laws and the rules and regulations of the Exchange and the Financial Industry Regulatory Authority, Inc. (“**FINRA**”).

2.16 D&O Questionnaires. To the Company’s knowledge, all information contained in the questionnaires (the “**Questionnaires**”) completed by each of the Company’s directors and officers immediately prior to the Offering (the “**Insiders**”), as supplemented by all information concerning the Company’s directors, officers and principal shareholders as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, as well as in the Lock-Up Agreement (as defined in Section 2.27 below) provided to the Underwriters, is true and correct in all material respects and the Company has not become aware of any information which would cause the information disclosed in the Questionnaires to become materially inaccurate and incorrect.

2.17 Litigation; Governmental Proceedings. There is no action, suit, proceeding, inquiry, arbitration, investigation, litigation or governmental proceeding pending or, to the Company’s knowledge, threatened against, or involving the Company or, to the Company’s knowledge, any executive officer or director which has not been disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus which is required to be disclosed.

2.18 Good Standing. The Company has been duly organized and is validly existing as a corporation and is in good standing under the laws of the State of Delaware as of the date hereof, and is duly qualified to do business and is in good standing in each other jurisdiction in which its ownership or lease of property or the conduct of business requires such qualification, except where the failure to qualify, singularly or in the aggregate, would not have or reasonably be expected to result in a Material Adverse Change.

2.19 Insurance. The Company carries or is entitled to the benefits of insurance, with reputable insurers, in such amounts and covering such risks which the Company believes are adequate, and all such insurance is in full force and effect. The Company has no reason to believe that it will not be able (i) to renew its existing insurance coverage as and when such policies expire or (ii) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that would not result in a Material Adverse Change.

2.20 Transactions Affecting Disclosure to FINRA.

2.20.1 Finder’s Fees. Except as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, there are no claims, payments, arrangements, agreements or understandings relating to the payment of a finder’s, consulting or origination fee by the Company or any Insider with respect to the sale of the Public Securities hereunder or any other arrangements, agreements or understandings of the Company or, to the Company’s knowledge, any of its shareholders that may affect the Underwriters’ compensation, as determined by FINRA.

2.20.2 Payments Within Six (6) Months. Except as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company has not made any direct or indirect payments (in cash, securities or otherwise) to: (i) any person, as a finder’s fee, consulting fee or

otherwise, in consideration of such person raising capital for the Company or introducing to the Company persons who raised or provided capital to the Company; (ii) any FINRA member; or (iii) any person or entity that has any direct or indirect affiliation or association with any FINRA member, within the six (6) months prior to the date of this Agreement, other than the payment to the Underwriters as provided hereunder in connection with the Offering.

2.20.3 Use of Proceeds. None of the net proceeds of the Offering will be paid by the Company to any participating FINRA member or its affiliates, except as specifically authorized herein.

2.20.4 FINRA Affiliation. Except as disclosed in their FINRA confirmations, to the Company's knowledge, there is no (i) officer or director of the Company, (ii) beneficial owner of 5% or more of any class of the Company's securities or (iii) beneficial owner of the Company's unregistered equity securities which were acquired during the 180-day period immediately preceding the filing of the Registration Statement that is an affiliate or associated person of a FINRA member participating in the Offering (as determined in accordance with the rules and regulations of FINRA).

2.20.5 Information. All information provided by the Company in its FINRA questionnaire to Representative Counsel specifically for use by Representative Counsel in connection with its Public Offering System filings (and related disclosure) with FINRA is true, correct and complete in all material respects.

2.21 Foreign Corrupt Practices Act. None of the Company and its Subsidiaries or, to the Company's knowledge, any director, officer, agent, employee or affiliate of the Company and its Subsidiaries or any other person acting on behalf of the Company and its Subsidiaries, has, directly or indirectly, given or agreed to give any money, gift or similar benefit (other than legal price concessions to customers in the ordinary course of business) to any customer, supplier, employee or agent of a customer or supplier, or official or employee of any governmental agency or instrumentality of any government (domestic or foreign) or any political party or candidate for office (domestic or foreign) or other person who was, is, or may be in a position to help or hinder the business of the Company (or assist it in connection with any actual or proposed transaction) that (i) might subject the Company to any damage or penalty in any civil, criminal or governmental litigation or proceeding, (ii) if not given in the past, might have had a Material Adverse Change or (iii) if not continued in the future, might adversely affect the assets, business, operations or prospects of the Company. The Company has taken reasonable steps to ensure that its accounting controls and procedures are sufficient to cause the Company to comply in all material respects with the Foreign Corrupt Practices Act of 1977, as amended.

2.22 Compliance with OFAC. None of the Company and its Subsidiaries or, to the Company's knowledge, any director, officer, agent, employee or affiliate of the Company and its Subsidiaries or any other person acting on behalf of the Company and its Subsidiaries, is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Department of the Treasury ("**OFAC**"), and the Company will not, directly or indirectly, use the proceeds of the Offering hereunder, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity, for the purpose of financing the activities of any person currently subject to any U.S. sanctions administered by OFAC.

2.23 Forward-Looking Statements. No forward-looking statement (within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act) contained in either the Registration Statement, Pricing Disclosure Package or Prospectus has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith.

2.24 Money Laundering Laws. The operations of the Company and its Subsidiaries are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all jurisdictions, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any Governmental Entity (collectively, the “**Money Laundering Laws**”); and no action, suit or proceeding by or before any Governmental Entity involving the Company with respect to the Money Laundering Laws is pending or, to the best knowledge of the Company, threatened.

2.25 Regulatory. All preclinical studies and clinical trials conducted by or on behalf of the Company that are material to the Company and its Subsidiaries, taken as a whole, are or have been adequately described in the Registration Statement, the Pricing Disclosure Package and the Prospectus in all material respects. The preclinical studies and clinical trials conducted by or on behalf of the Company and its Subsidiaries that are described in the Registration Statement, the Pricing Disclosure Package and the Prospectus or the results of which are referred to in the Registration Statement, the Pricing Disclosure Package and the Prospectus were and, if still ongoing, are being conducted in material compliance with all laws and regulations applicable thereto in the jurisdictions in which they are being conducted and with all laws and regulations applicable to preclinical studies and clinical trials from which data will be submitted to support marketing approval. The descriptions in the Registration Statement, the Pricing Disclosure Package and the Prospectus of the results of such studies are accurate and complete in all material respects and fairly present the data derived from such studies, and the Company has no knowledge of, or reason to believe that, any large well-controlled clinical study the aggregate results of which are inconsistent with or otherwise call into question the results of any clinical study conducted by or on behalf of the Company that are described in the Registration Statement, the Pricing Disclosure Package and the Prospectus or the results of which are referred to in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company has not received any written notices or statements from the FDA, the European Medicines Agency (“**EMA**”) or any other governmental agency or authority imposing, requiring, requesting or suggesting a clinical hold, termination, suspension or material modification for or of any preclinical studies and clinical trials that are described in the Registration Statement, the Pricing Disclosure Package and the Prospectus or the results of which are referred to in the Registration Statement, the Pricing Disclosure Package and the Prospectus. Except as disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company has not received any written notices or statements from the FDA, the EMA or any other governmental agency, and otherwise has no knowledge of, or reason to believe that, (i) any investigational new drug application for any potential product of the Company is or has been rejected or placed on clinical hold; and (ii) any license, approval, permit or authorization to conduct any clinical trial of any potential product of the Company has been, will be or may be suspended, revoked, modified or limited.

2.26 Officers’ Certificate. Any certificate signed by any duly authorized officer of the Company and delivered to you or to Representative Counsel shall be deemed a representation and warranty by the Company to the Underwriters as to the matters covered thereby.

2.27 Lock-Up Agreements. Schedule 3 hereto contains a complete and accurate list of the Company’s officers and directors (collectively, the “**Lock-Up Parties**”). The Company has caused each of the Lock-Up Parties to deliver to the Representative an executed Lock-Up Agreement, in the form attached hereto as Exhibit A (the “**Lock-Up Agreement**”), prior to the execution of this Agreement.

2.28 Subsidiaries. All direct and indirect Subsidiaries of the Company are duly organized and in good standing under the laws of the place of organization or incorporation, and each Subsidiary is in good standing in each jurisdiction in which its ownership or lease of property or the conduct of business requires

such qualification, except where the failure to qualify would not have a Material Adverse Change. The Company's ownership and control of each Subsidiary is as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus.

## 2.29 Related Party Transactions.

2.29.1 Business Relationships. There are no business relationships or related party transactions involving the Company or any other person required to be described in the Registration Statement, the Pricing Disclosure Package and the Prospectus that have not been described as required.

2.29.2 No Relationships with Customers and Suppliers. No relationship, direct or indirect, exists between or among the Company on the one hand, and the directors, officers, 5% or greater stockholders, customers or suppliers of the Company or any of the Company's affiliates on the other hand, which is required to be described in the Pricing Disclosure Package and the Prospectus or a document incorporated by reference therein and which is not so described.

2.29.3 No Unconsolidated Entities. There are no transactions, arrangements or other relationships between and/or among the Company, any of its affiliates (as such term is defined in Rule 405 of the Securities Act) and any unconsolidated entity, including, but not limited to, any structure finance, special purpose or limited purpose entity that could reasonably be expected to materially affect the Company's liquidity or the availability of or requirements for its capital resources required to be described in the Pricing Disclosure Package and the Prospectus or a document incorporated by reference therein which have not been described as required.

2.29.4 No Loans or Advances to Affiliates. There are no outstanding loans, advances (except normal advances for business expenses in the ordinary course of business) or guarantees or indebtedness by the Company to or for the benefit of any of the officers or directors of the Company or any of their respective family members, except as disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus.

2.30 Board of Directors. The Board of Directors of the Company is comprised of the persons disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus. The qualifications of the persons serving as board members and the overall composition of the board comply with the Exchange Act, the Exchange Act Regulations, the Sarbanes-Oxley Act of 2002 and the rules promulgated thereunder (the "**Sarbanes-Oxley Act**") applicable to the Company and the listing rules of the Exchange. At least one member of the Audit Committee of the Board of Directors of the Company qualifies as an "audit committee financial expert," as such term is defined under Regulation S-K and the listing rules of the Exchange. In addition, at least a majority of the persons serving on the Board of Directors qualify as "independent," as defined under the listing rules of the Exchange.

## 2.31 Sarbanes-Oxley Compliance.

2.31.1 Disclosure Controls. Except as set forth in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company has developed and currently maintains disclosure controls and procedures that will comply with Rule 13a-15 or 15d-15 under the Exchange Act Regulations, and such controls and procedures are effective to ensure that all material information concerning the Company will be made known on a timely basis to the individuals responsible for the preparation of the Company's Exchange Act filings and other public disclosure documents.

2.31.2 Compliance. Except as set forth in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company is, or at the Applicable Time and on the Closing Date

will be, in material compliance with the provisions of the Sarbanes-Oxley Act applicable to it, and has implemented or will implement such programs and taken reasonable steps to ensure the Company's future compliance (not later than the relevant statutory and regulatory deadlines therefor) with all of the material provisions of the Sarbanes-Oxley Act.

2.32 Accounting Controls. Except as set forth in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company and its Subsidiaries maintain systems of "internal control over financial reporting" (as defined under Rules 13a-15 and 15d-15 under the Exchange Act Regulations) that comply with the requirements of the Exchange Act and have been designed by, or under the supervision of, their respective principal executive and principal financial officers, or persons performing similar functions, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP, including, but not limited to, internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed in accordance with management's general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset accountability; (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 the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. Except as disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company is not aware of any material weaknesses in its internal controls. The Company's auditors and the Audit Committee of the Board of Directors of the Company have been advised of: (i) all significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting which are known to the Company's management and that have adversely affected or are reasonably likely to adversely affect the Company's ability to record, process, summarize and report financial information; and (ii) any fraud known to the Company's management, whether or not material, that involves management or other employees who have a significant role in the Company's internal controls over financial reporting.

2.33 No Investment Company Status. The Company is not and, after giving effect to the Offering and the application of the proceeds thereof as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, will not be, required to register as an "investment company," as defined in the Investment Company Act of 1940, as amended.

2.34 No Labor Disputes. No labor dispute with the employees of the Company or any of its Subsidiaries exists or, to the knowledge of the Company, is imminent.

2.35 Intellectual Property Rights. The Company or its Subsidiaries owns or possesses or has valid rights to use all patents, patent applications, trademarks, service marks, trade names, trademark registrations, service mark registrations, copyrights, licenses, inventions, trade secrets and similar rights ("**Intellectual Property Rights**") necessary for the conduct of the business of the Company and its Subsidiaries as currently carried on and as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus. To the knowledge of the Company, no action or use by the Company or any of its Subsidiaries necessary for the conduct of its business as currently carried on and as described in the Registration Statement and the Prospectus will involve or give rise to any infringement of, or license or similar fees (other than license or similar fees described or contemplated in the Registration Statement, the Pricing Disclosure Package and the Prospectus) for, any Intellectual Property Rights of others. Neither the Company nor any of its Subsidiaries has received any notice alleging any such infringement of, license or similar fees for, or conflict with, any asserted Intellectual Property Rights of others. Except as would not reasonably be expected to result, individually or in the aggregate, in a Material Adverse Change, (i) to the knowledge of the Company, there is no infringement, misappropriation or violation by third parties of any of the Intellectual Property Rights owned by the Company; (ii) there is no pending or, to the knowledge of

the Company, threatened action, suit, proceeding or claim by others challenging the rights of the Company in or to any such Intellectual Property Rights, and the Company is unaware of any facts which would form a reasonable basis for any such claim, that would, individually or in the aggregate, together with any other claims in this Section 2.35, reasonably be expected to result in a Material Adverse Change; (iii) the Intellectual Property Rights owned by the Company and, to the knowledge of the Company, the Intellectual Property Rights licensed to the Company have not been adjudged by a court of competent jurisdiction invalid or unenforceable, in whole or in part, and there is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by others challenging the validity or scope of any such Intellectual Property Rights, and the Company is unaware of any facts which would form a reasonable basis for any such claim that would, individually or in the aggregate, together with any other claims in this Section 2.35, reasonably be expected to result in a Material Adverse Change; (iv) there is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by others that the Company infringes, misappropriates or otherwise violates any Intellectual Property Rights or other proprietary rights of others, the Company has not received any written notice of such claim and the Company is unaware of any other facts which would form a reasonable basis for any such claim that would, individually or in the aggregate, together with any other claims in this Section 2.35, reasonably be expected to result in a Material Adverse Change; and (v) to the Company's knowledge, no employee of the Company is in or has ever been in violation in any material respect 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 and could reasonably be expected to result, individually or in the aggregate, in a Material Adverse Change. To the Company's knowledge, all material technical information developed by and belonging to the Company which has not been disclosed in a filed patent application has been kept confidential. The Company is not a party to or bound by any options, licenses or agreements with respect to the Intellectual Property Rights of any other person or entity that are required to be set forth in the Registration Statement, the Pricing Disclosure Package and the Prospectus and are not described therein. The Registration Statement, the Pricing Disclosure Package and the Prospectus contain in all material respects the same description of the matters set forth in the preceding sentence. None of the technology employed by the Company has been obtained or is being used by the Company in violation of any contractual obligation binding on the Company or, to the Company's knowledge, any of its officers, directors or employees, or otherwise in violation of the rights of any persons.

2.36 Taxes. Each of the Company and its Subsidiaries has filed all returns (as hereinafter defined) required to be filed with taxing authorities prior to the date hereof or has duly obtained extensions of time for the filing thereof. Each of the Company and its Subsidiaries has paid all taxes (as hereinafter defined) shown as due on such returns that were filed and has paid all taxes imposed on or assessed against the Company or such respective Subsidiary except as would not be reasonably expected to have a Material Adverse Change. The provisions for taxes payable, if any, shown on the financial statements filed with or as part of the Registration Statement are sufficient for all accrued and unpaid taxes, whether or not disputed, and for all periods to and including the dates of such consolidated financial statements. Except as disclosed in writing to the Underwriters, (i) no issues have been raised (and are currently pending) by any taxing authority in connection with any of the returns or taxes asserted as due from the Company or its Subsidiaries, and (ii) no waivers of statutes of limitation with respect to the returns or collection of taxes have been given by or requested from the Company or its Subsidiaries. The term “ **taxes** ” mean all federal, state, local, foreign and other net income, gross income, gross receipts, sales, use, ad valorem, transfer, franchise, profits, license, lease, service, service use, withholding, payroll, employment, excise, severance, stamp, occupation, premium, property, windfall profits, customs, duties or other taxes, fees, assessments or charges of any kind whatever, together with any interest and any penalties, additions to tax or additional amounts with respect thereto. The term “ **returns** ” means all returns, declarations, reports, statements and other documents required to be filed in respect to taxes.

2.37 ERISA Compliance. The Company and any “employee benefit plan” (as defined under the Employee Retirement Income Security Act of 1974, as amended, and the regulations and published interpretations thereunder (collectively, “**ERISA**”)) established or maintained by the Company or its “ERISA Affiliates” (as defined below) are in compliance in all material respects with ERISA. “**ERISA Affiliate**” means, with respect to the Company, any member of any group of organizations described in Sections 414(b),(c),(m) or (o) of the Internal Revenue Code of 1986, as amended, and the regulations and published interpretations thereunder (the “**Code**”) of which the Company is a member. No “reportable event” (as defined under ERISA) has occurred or is reasonably expected to occur with respect to any “employee benefit plan” established or maintained by the Company or any of its ERISA Affiliates. No “employee benefit plan” established or maintained by the Company or any of its ERISA Affiliates, if such “employee benefit plan” were terminated, would have any “amount of unfunded benefit liabilities” (as defined under ERISA). Neither the Company nor any of its ERISA Affiliates has incurred or reasonably expects to incur any material liability under (i) Title IV of ERISA with respect to termination of, or withdrawal from, any “employee benefit plan” or (ii) Sections 412, 4971, 4975 or 4980B of the Code. Each “employee benefit plan” established or maintained by the Company or any of its ERISA Affiliates that is intended to be qualified under Section 401(a) of the Code is so qualified and, to the knowledge of the Company, nothing has occurred, whether by action or failure to act, which would cause the loss of such qualification.

2.38 Compliance with Laws. The Company: (i) is and at all times has been in compliance with all statutes, rules, or regulations applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, storage or disposal of any product manufactured or distributed by the Company (“**Applicable Laws**”), except as could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Change; (ii) has not received any FDA Form 483, notice of adverse finding, warning letter, untitled letter or other correspondence or written notice from the FDA or any other governmental authority alleging or asserting 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**”); (iii) possesses all material Authorizations and such Authorizations are valid and in full force and effect and are not in material violation of any term of any such Authorizations; (iv) has not received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any governmental authority or third party alleging that any product operation or activity is in violation of any Applicable Laws or Authorizations and has no knowledge that any such governmental authority or third party is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding, except as could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Change; (v) has not received written notice that any governmental authority has taken, is taking or intends to take action to limit, suspend, modify or revoke any Authorizations and has no knowledge that any such governmental authority is considering such action, except as could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Change; and (vi) 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 complete and correct in all material respects on the date filed (or were corrected or supplemented by a subsequent submission).

2.39 Environmental Laws. The Company and its Subsidiaries are in compliance with all foreign, federal, state and local rules, laws and regulations relating to the use, treatment, storage and disposal of hazardous or toxic substances or waste and protection of health and safety or the environment which are applicable to their businesses (“**Environmental Laws**”), except where the failure to comply would not, singularly or in the aggregate, result in a Material Adverse Change. There has been no storage, generation, transportation, handling, treatment, disposal, discharge, emission, or other release of any kind of toxic or other wastes or other hazardous substances by, due to, or caused by the Company or any of its

Subsidiaries (or, to the Company's knowledge, any other entity for whose acts or omissions the Company or any of its Subsidiaries is or may otherwise be liable) upon any of the property now or previously owned or leased by the Company or any of its Subsidiaries, or upon any other property, in violation of any law, statute, ordinance, rule, regulation, order, judgment, decree or permit or which would, under any law, statute, ordinance, rule (including rule of common law), regulation, order, judgment, decree or permit, give rise to any liability, except for any violation or liability which would not have, singularly or in the aggregate with all such violations and liabilities, a Material Adverse Change; and there has been no disposal, discharge, emission or other release of any kind onto such property or into the environment surrounding such property of any toxic or other wastes or other hazardous substances with respect to which the Company has knowledge, except for any such disposal, discharge, emission, or other release of any kind which would not have, singularly or in the aggregate with all such discharges and other releases, a Material Adverse Change. In the ordinary course of business, the Company and its Subsidiaries conduct periodic reviews of the effect of Environmental Laws on their business and assets, in the course of which they identify and evaluate associated costs and liabilities (including, without limitation, any capital or operating expenditures required for clean-up, closure of properties or compliance with Environmental Laws or governmental permits issued thereunder, any related constraints on operating activities and any potential liabilities to third parties). On the basis of such reviews, the Company and its Subsidiaries have reasonably concluded that such associated costs and liabilities would not have, singularly or in the aggregate, a Material Adverse Change.

2.40 Real Property. Except as set forth in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company and each of its Subsidiaries have good and marketable title in fee simple to, or have valid rights to lease or otherwise use, all items of real or personal property which are material to the business of the Company and its Subsidiaries taken as a whole, in each case free and clear of all liens, encumbrances, security interests, claims and defects that do not, singly or in the aggregate, materially affect the value of such property and do not interfere with the use made and proposed to be made of such property by the Company or any of its Subsidiaries; and all of the leases and subleases material to the business of the Company and its subsidiaries, considered as one enterprise, and under which the Company or any of its subsidiaries holds properties described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, are in full force and effect, and neither the Company nor any Subsidiary has received any notice of any material claim of any sort that has been asserted by anyone adverse to the rights of the Company or any Subsidiary under any of the leases or subleases mentioned above, or affecting or questioning the rights of the Company or such Subsidiary to the continued possession of the leased or subleased premises under any such lease or sublease.

2.41 Contracts Affecting Capital. There are no transactions, arrangements or other relationships between and/or among the Company, any of its affiliates (as such term is defined in Rule 405 of the Securities Act Regulations) and any unconsolidated entity, including, but not limited to, any structured finance, special purpose or limited purpose entity that could reasonably be expected to materially affect the Company's or any of its Subsidiaries' liquidity or the availability of or requirements for their capital resources required to be described or incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus which have not been described or incorporated by reference as required.

2.42 Ineligible Issuer. At the time of filing the Registration Statement and any post-effective amendment thereto, at the time of effectiveness of the Registration Statement and any amendment thereto, at the earliest time thereafter that the Company or another offering participant made a bona fide offer (within the meaning of Rule 164(h)(2) of the Securities Act Regulations) of the Public Securities and at the date hereof, the Company was not and is not an "ineligible issuer," as defined in Rule 405, without taking account of any determination by the Commission pursuant to Rule 405 that it is not necessary that the Company be considered an ineligible issuer.



2.43 Smaller Reporting Company. As of the time of the initial filing of the Registration Statement and as of the date hereof, the Company was a “smaller reporting company,” as defined in Rule 12b-2 of the Exchange Act Regulations.

2.44 Industry Data. The statistical and market-related data included in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus are based on or derived from sources that the Company reasonably and in good faith believes are reliable and accurate or represent the Company’s good faith estimates that are made on the basis of data derived from such sources.

2.45 Margin Securities. The Company owns no “margin securities” as that term is defined in Regulation U of the Board of Governors of the Federal Reserve System (the “**Federal Reserve Board**”), and none of the proceeds of Offering will be used, directly or indirectly, for the purpose of purchasing or carrying any margin security, for the purpose of reducing or retiring any indebtedness which was originally incurred to purchase or carry any margin security or for any other purpose which might cause any of the shares of Common Stock to be considered a “purpose credit” within the meanings of Regulation T, U or X of the Federal Reserve Board.

2.46 Exchange Act Reports. The Company has filed in a timely manner all reports required to be filed pursuant to Sections 13(a), 13(e), 14 and 15(d) of the Exchange Act during the preceding 12 months (except to the extent that Section 15(d) requires reports to be filed pursuant to Sections 13(d) and 13(g) of the Exchange Act, which shall be governed by the next clause of this sentence); and the Company has filed in a timely manner all reports required to be filed pursuant to Sections 13(d) and 13(g) of the Exchange Act since July 23, 2013, except where the failure to timely file could not reasonably be expected, individually or in the aggregate, to have a Material Adverse Change.

2.47 Minute Books. The minute books of the Company have been made available to the Underwriters and counsel for the Underwriters, and such books (i) contain a complete summary of all meetings and actions of the board of directors (including each board committee) and stockholders of the Company (or analogous governing bodies and interest holders, as applicable), and each of its Subsidiaries since the time of its respective incorporation or organization through the date of the latest meeting and action, and (ii) accurately in all material respects reflect all transactions referred to in such minutes. There are no material transactions, agreements, dispositions or other actions of the Company that are not properly approved and/or accurately and fairly recorded in the minute books of the Company, as applicable.

2.48 Integration. Neither the Company, nor any of its affiliates, nor any person acting on its or their behalf has, directly or indirectly, made any offers or sales of any security or solicited any offers to buy any security, under circumstances that would cause the Offering to be integrated with prior offerings by the Company for purposes of the Securities Act that would require the registration of any such securities under the Securities Act.

3. Covenants of the Company. The Company covenants and agrees as follows:

3.1 Amendments to Registration Statement. The Company shall deliver to the Representative, prior to filing, any amendment or supplement to the Registration Statement, Preliminary Prospectus, Pricing Disclosure Package or Prospectus proposed to be filed after the Effective Date and not file any such amendment or supplement to which the Representative shall reasonably object in writing.

3.2 Federal Securities Laws.

3.2.1 Compliance. The Company, subject to Section 3.2.2, shall comply with the requirements of Rule 424(b) and Rule 430A of the Securities Act Regulations, and will notify the

Representative promptly, and confirm the notice in writing, (i) when any post-effective amendment to the Registration Statement or any amendment or supplement to any Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus shall have been filed and when any post-effective amendment to the Registration Statement shall become effective; (ii) of the receipt of any comments from the Commission; (iii) of any request by the Commission for any amendment to the Registration Statement or any amendment or supplement to any Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus or for additional information; (iv) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment or of any order preventing or suspending the use of any Preliminary Prospectus, the Pricing Disclosure Package or the Prospectus, or of the suspension of the qualification of the Public Securities for offering or sale in any jurisdiction, or of the initiation or threatening of any proceedings for any of such purposes or of any examination pursuant to Section 8(d) or 8(e) of the Securities Act concerning the Registration Statement; and (v) if the Company becomes the subject of a proceeding under Section 8A of the Securities Act in connection with the Offering of the Public Securities. The Company shall effect all filings required under Rule 424(b) of the Securities Act Regulations, in the manner and within the time period required by Rule 424(b) (without reliance on Rule 424(b)(8)), and shall take such steps as it deems necessary to ascertain promptly whether the form of prospectus transmitted for filing under Rule 424(b) was received for filing by the Commission and, in the event that it was not, it will promptly file such prospectus. The Company shall use its best efforts to prevent the issuance of any stop order, prevention or suspension and, if any such order is issued, to obtain the lifting thereof at the earliest possible moment.

3.2.2 Continued Compliance. The Company shall comply with the Securities Act, the Securities Act Regulations, the Exchange Act and the Exchange Act Regulations so as to permit the completion of the distribution of the Public Securities as contemplated in this Agreement and in the Registration Statement, the Pricing Disclosure Package and the Prospectus. If at any time when a prospectus relating to the Public Securities is (or, but for the exception afforded by Rule 172 of the Securities Act Regulations (“**Rule 172**”), would be) required by the Securities Act to be delivered in connection with sales of the Public Securities, any event shall occur or condition shall exist as a result of which it is necessary, in the opinion of counsel for the Underwriters or for the Company, to (i) amend the Registration Statement in order that the Registration Statement will not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading; (ii) amend or supplement the Pricing Disclosure Package or the Prospectus in order that the Pricing Disclosure Package or the Prospectus, as the case may be, will not include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein not misleading in the light of the circumstances existing at the time it is delivered to a purchaser or (iii) amend the Registration Statement or amend or supplement the Pricing Disclosure Package or the Prospectus, as the case may be, in order to comply with the requirements of the Securities Act or the Securities Act Regulations, the Company will promptly (A) give the Representative notice of such event; (B) prepare any amendment or supplement as may be necessary to correct such statement or omission or to make the Registration Statement, the Pricing Disclosure Package or the Prospectus comply with such requirements and, a reasonable amount of time prior to any proposed filing or use, furnish the Representative with copies of any such amendment or supplement and (C) file with the Commission any such amendment or supplement; *provided, however*, that the Company shall not file or use any such amendment or supplement to which the Representative or counsel for the Underwriters shall reasonably object. The Company will furnish to the Underwriters such number of copies of such amendment or supplement as the Underwriters may reasonably request. The Company has given the Representative notice of any filings made pursuant to the Exchange Act or the Exchange Act Regulations within 48 hours prior to the Applicable Time. The Company shall give the Representative notice of its intention to make any such filing from the Applicable Time until the later of the Closing Date and the exercise in full or expiration of the Over-allotment Option specified in Section 1.2 hereof and will furnish the Representative with copies of the related document(s) a reasonable amount of time prior to such proposed filing, as the case may be, and

will not file or use any such document to which the Representative or counsel for the Underwriters shall reasonably object.

3.2.3 Exchange Act Registration. For a period of three (3) years after the date of this Agreement, the Company shall use its best efforts to maintain the registration of the shares of Common Stock under the Exchange Act. The Company shall not deregister the shares of Common Stock under the Exchange Act without the prior written consent of the Representative.

3.2.4 Free Writing Prospectuses. The Company agrees that, unless it obtains the prior written consent of the Representative, it shall not make any offer relating to the Public Securities that would constitute an Issuer Free Writing Prospectus or that would otherwise constitute a “free writing prospectus,” or a portion thereof, required to be filed by the Company with the Commission or retained by the Company under Rule 433; *provided, however*, that the Representative shall be deemed to have consented to each Issuer General Use Free Writing Prospectus hereto and any “road show that is a written communication” within the meaning of Rule 433(d)(8)(i) that has been reviewed by the Representative. The Company represents that it has treated or agrees that it will treat each such free writing prospectus consented to, or deemed consented to, by the Underwriters as an “issuer free writing prospectus,” as defined in Rule 433, and that it has complied and will comply with the applicable requirements of Rule 433 with respect thereto, including timely filing with the Commission where required, legending and record keeping. If at any time following issuance of an Issuer Free Writing Prospectus there occurred or occurs an event or development as a result of which such Issuer Free Writing Prospectus conflicted or would conflict with the information contained in the Registration Statement or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company will promptly notify the Underwriters and will promptly amend or supplement, at its own expense, such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission.

3.3 Delivery to the Underwriters of Registration Statements. The Company has delivered or made available or shall deliver or make available to the Representative and counsel for the Representative, without charge, signed copies of the Registration Statement as originally filed and each amendment thereto (including exhibits filed therewith or incorporated by reference therein and documents incorporated or deemed to be incorporated by reference therein) and signed copies of all consents and certificates of experts, and will also deliver to the Underwriters, without charge, a conformed copy of the Registration Statement as originally filed and each amendment thereto (without exhibits) for each of the Underwriters. The copies of the Registration Statement and each amendment thereto furnished to the Underwriters will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

3.4 Delivery to the Underwriters of Prospectuses. The Company has delivered or made available or will deliver or make available to each Underwriter, without charge, as many copies of each Preliminary Prospectus as such Underwriter reasonably requested, and the Company hereby consents to the use of such copies for purposes permitted by the Securities Act. The Company will furnish to each Underwriter, without charge, during the period when a prospectus relating to the Public Securities is (or, but for the exception afforded by Rule 172, would be) required to be delivered under the Securities Act, such number of copies of the Prospectus (as amended or supplemented) as such Underwriter may reasonably request. The Prospectus and any amendments or supplements thereto furnished to the Underwriters will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

3.5 Events Requiring Notice to the Representative. The Company shall use its best efforts to cause the Registration Statement to remain effective with a current prospectus for at least nine (9) months

after the Applicable Time, and shall notify the Representative immediately and confirm the notice in writing: (i) of the issuance by the Commission of any stop order or of the initiation, or the threatening, of any proceeding for that purpose; (ii) of the issuance by any state securities commission of any proceedings for the suspension of the qualification of the Public Securities for offering or sale in any jurisdiction or of the initiation, or the threatening, of any proceeding for that purpose; (iii) of the mailing and delivery to the Commission for filing of any amendment or supplement to the Registration Statement or Prospectus; (iv) of the receipt of any comments or request for any additional information from the Commission; and (v) of the happening of any event during the period described in this Section 3.5 that, in the judgment of the Company, makes any statement of a material fact made in the Registration Statement, the Pricing Disclosure Package or the Prospectus untrue or that requires the making of any changes in (a) the Registration Statement in order to make the statements therein not misleading, or (b) in the Pricing Disclosure Package or the Prospectus in order to make the statements therein, in light of the circumstances under which they were made, not misleading. If the Commission or any state securities commission shall enter a stop order or suspend such qualification at any time, the Company shall make every reasonable effort to obtain promptly the lifting of such order.

3.6 Review of Financial Statements. For a period of five (5) years after the date of this Agreement, the Company, at its expense, shall cause its regularly engaged independent registered public accounting firm to review (but not audit) the Company's financial statements for each of the three fiscal quarters immediately preceding the announcement of any quarterly financial information.

3.7 Listing. The Company shall use its best efforts to maintain the listing of the shares of Common Stock (including the Public Securities and the Warrant Shares) on the Exchange for at least three years from the date of this Agreement.

3.8 Intentionally omitted.

3.9 Reports to the Representative.

3.9.1 Periodic Reports, etc. For a period of three (3) years after the date of this Agreement, the Company shall furnish to the Representative copies of such financial statements and other periodic and special reports as the Company from time to time furnishes generally to holders of any class of its securities and also promptly furnish to the Representative: (i) a copy of each periodic report the Company shall be required to file with the Commission under the Exchange Act and the Exchange Act Regulations; (ii) a copy of every press release and every news item and article with respect to the Company or its affairs which was released by the Company; (iii) a copy of each Form 8-K prepared and filed by the Company; (iv) five copies of each registration statement filed by the Company under the Securities Act; (v) a copy of each report or other communication furnished to stockholders and (vi) such additional documents and information with respect to the Company and the affairs of any future subsidiaries of the Company as the Representative may from time to time reasonably request; *provided, however*, the Representative shall sign, if requested by the Company, a Regulation FD compliant confidentiality agreement which is reasonably acceptable to the Representative and Representative Counsel in connection with the Representative's receipt of such information. Documents filed with the Commission pursuant to its EDGAR system or otherwise publicly filed or made available shall be deemed to have been delivered to the Representative pursuant to this Section 3.9.1.

3.9.2 Transfer Agent; Transfer Sheets. For a period of three (3) years after the date of this Agreement, the Company shall retain a transfer agent and registrar acceptable to the Representative (the "**Transfer Agent**") and shall furnish to the Representative at the Company's sole cost and expense such transfer sheets of the Company's securities as the Representative may reasonably request, including the daily and monthly consolidated transfer sheets of the Transfer Agent and DTC. Continental Stock

Transfer & Trust Company is acceptable to the Representative to act as Transfer Agent for the shares of Common Stock.

3.9.3 Trading Reports. During such time as the Public Securities are listed on the Exchange, the Company shall provide to the Representative, at the Company's expense, such reports published by Exchange relating to price trading of the Public Securities, as the Representative shall reasonably request.

3.10 Payment of Expenses. The Company hereby agrees to pay on each of the Closing Date and the Option Closing Date, if any, to the extent not paid at the Closing Date, all expenses incident to the performance of the obligations of the Company under this Agreement, including, but not limited to: (i) all filing fees and communication expenses relating to the registration of the Public Securities with the Commission; (ii) all Public Filing System filing fees associated with the review of the Offering by FINRA; (iii) all fees and expenses relating to the listing of such Public Securities on the Exchange and such other stock exchanges as the Company and the Representative together determine; (iv) all fees, expenses and disbursements relating to the registration, qualification or exemption of the Public Securities under the "blue sky" securities laws of such states and other jurisdictions as the Representative may reasonably designate; (v) all fees, expenses and disbursements relating to the registration, qualification or exemption of the Public Securities under the securities laws of such foreign jurisdictions as the Representative may reasonably designate; (vi) the costs of all mailing and printing of the underwriting documents (including, without limitation, the Underwriting Agreement, any Blue Sky Surveys and, if appropriate, any Agreement Among Underwriters, Selected Dealers' Agreement, Underwriters' Questionnaire and Power of Attorney), Registration Statements, Prospectuses and all amendments, supplements and exhibits thereto and as many preliminary and final Prospectuses as the Representative may reasonably deem necessary; (vii) the costs of preparing, printing and delivering certificates representing the Public Securities; (viii) fees and expenses of the transfer agent for the shares of Common Stock; (ix) stock transfer and/or stamp taxes, if any, payable upon the transfer of securities from the Company to the Underwriters; (x) to the extent approved by the Company in writing, the costs associated with post-Closing advertising the Offering in the national editions of the Wall Street Journal and New York Times; (xi) the fees and expenses of the Company's accountants; (xii) the fees and expenses of the Company's legal counsel and other agents and representatives; (xiii) the fees and expenses of the Underwriters' legal counsel not to exceed \$100,000; (ix) up to \$25,000 associated with the Representative's use of IPREO's book-building, prospectus tracking and compliance software for the Offering; and (x) up to \$25,000 of the Representative's actual accountable marketing and "road show" expenses for the Offering. The Representative may deduct from the net proceeds of the Offering payable to the Company on the Closing Date, or the Option Closing Date, if any, the expenses set forth herein to be paid by the Company to the Underwriters.

3.11 Application of Net Proceeds. The Company shall apply the net proceeds from the Offering received by it in a manner consistent with the application thereof described under the caption "Use of Proceeds" in the Registration Statement, the Pricing Disclosure Package and the Prospectus.

3.12 Delivery of Earnings Statements to Security Holders. The Company shall make generally available to its security holders as soon as practicable, but not later than the first day of the fifteenth (15<sup>th</sup>) full calendar month following the date of this Agreement, an earnings statement (which need not be certified by independent registered public accounting firm unless required by the Securities Act or the Securities Act Regulations, but which shall satisfy the provisions of Rule 158(a) under Section 11(a) of the Securities Act) covering a period of at least twelve (12) consecutive months beginning after the date of this Agreement.

3.13 Stabilization. Neither the Company nor, to its knowledge, any of its employees, directors or shareholders (without the consent of the Representative) has taken or shall take, directly or indirectly,

any action designed to or that has constituted or that might reasonably be expected to cause or result in, under Regulation M of the Exchange Act, or otherwise, stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Public Securities.

3.14 Internal Controls. The Company shall maintain 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 in order to permit preparation of financial statements in accordance with GAAP 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.

3.15 Accountants. As of the date of this Agreement, the Company shall continue to retain a nationally recognized independent registered public accounting firm for a period of at least three (3) years after the date of this Agreement. The Representative acknowledges that the Auditor is acceptable to the Representative.

3.16 FINRA. The Company shall advise the Representative (who shall make an appropriate filing with FINRA) if it is or becomes aware that (i) any officer or director of the Company, (ii) any beneficial owner of 5% or more of any class of the Company's securities or (iii) any beneficial owner of the Company's unregistered equity securities which were acquired during the 180 days immediately preceding the filing of the Registration Statement is or becomes an affiliate or associated person of a FINRA member participating in the Offering (as determined in accordance with the rules and regulations of FINRA).

3.17 No Fiduciary Duties. The Company acknowledges and agrees that the Underwriters' responsibility to the Company is solely contractual in nature and that none of the Underwriters or their affiliates or any selling agent shall be deemed to be acting in a fiduciary capacity, or otherwise owes any fiduciary duty to the Company or any of its affiliates in connection with the Offering and the other transactions contemplated by this Agreement.

3.18 Company Lock-Up Agreements. The Company, on behalf of itself and any successor entity, agrees that, without the prior written consent of the Representative, it will not for a period of ninety (90) days after the date of this Agreement (the "**Lock-Up Period**"), (i) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of capital stock of the Company or any securities convertible into or exercisable or exchangeable for shares of capital stock of the Company; (ii) file or cause to be filed any registration statement with the Commission relating to the offering of any shares of capital stock of the Company or any securities convertible into or exercisable or exchangeable for shares of capital stock of the Company; or (iii) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of capital stock of the Company, whether any such transaction described in clause (i), (ii) or (iii) above is to be settled by delivery of shares of capital stock of the Company or such other securities, in cash or otherwise.

The restrictions contained in this Section 3.18 shall not apply to (i) the shares of Common Stock or Pre-Funded Warrants to be sold hereunder, (ii) the issuance by the Company of shares of Common Stock upon the exercise of a stock option or warrant or the conversion of a security outstanding on the date hereof, which is disclosed in the Registration Statement, Pricing Disclosure Package and Prospectus, or pursuant to the exercise of the Pre-Funded Warrants, (iii) the issuance by the Company of stock options or other awards under any equity compensation plan of the Company, or (iv) the issuance of securities in

connection with a business acquisition, joint venture or partnership (so long as the purpose of such issuance is not solely for capital raising).

3.19 Blue Sky Qualifications. The Company shall use its best efforts, in cooperation with the Underwriters, if necessary, to qualify the Public Securities for offering and sale under the applicable securities laws of such states and other jurisdictions (domestic or foreign) as the Representative may designate with the consent of the Company and to maintain such qualifications in effect so long as required to complete the distribution of the Public Securities; *provided, however*, that the Company shall not be obligated to file any general consent to service of process or to qualify as a foreign corporation or as a dealer in securities in any jurisdiction in which it is not so qualified or to subject itself to taxation in respect of doing business in any jurisdiction in which it is not otherwise so subject.

3.20 Reporting Requirements. The Company, during the period when a prospectus relating to the Public Securities is (or, but for the exception afforded by Rule 172, would be) required to be delivered under the Securities Act, will file all documents required to be filed with the Commission pursuant to the Exchange Act within the time periods required by the Exchange Act and Exchange Act Regulations. Additionally, the Company shall report the use of proceeds from the issuance of the Public Securities as may be required under Rule 463 under the Securities Act Regulations.

3.21 Press Releases. Prior to the 41<sup>st</sup> day following the Closing Date, the Company shall not issue any press release or other communication directly or indirectly or hold any press conference with respect to the Company, its condition, financial or otherwise, or earnings, business affairs or business prospects (except for routine oral marketing communications in the ordinary course of business and consistent with the past practices of the Company and of which the Representative is notified), without the prior written consent of the Representative, which consent shall not be unreasonably withheld, unless in the judgment of the Company and its counsel, and after notification to the Representative, such press release or communication is required by law.

3.22 Sarbanes-Oxley. Except as disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company shall at all times comply with all applicable provisions of the Sarbanes-Oxley Act in effect from time to time.

3.23 Emerging Growth Company Status. The Company shall promptly notify the Representative if the Company ceases to be an Emerging Growth Company at any time prior to the later of (i) completion of the distribution of the Public Securities within the meaning of the Securities Act and (ii) fifteen (15) days following the completion of the Lock-Up Period.

4. Conditions of Underwriters' Obligations. The obligations of the Underwriters to purchase and pay for the Public Securities, as provided herein, shall be subject to (i) the continuing accuracy of the representations and warranties of the Company as of the date hereof and as of each of the Closing Date and the Option Closing Date, if any; (ii) the accuracy of the statements of officers of the Company made pursuant to the provisions hereof; (iii) the performance by the Company of its obligations hereunder; and (iv) the following conditions:

4.1 Regulatory Matters.

4.1.1 Commission Actions; Required Filings. The Registration Statement has become effective not later than 5:00 p.m., Eastern time, on the date of this Agreement or such later date and time as shall be consented to in writing by you. At each of the Closing Date and any Option Closing Date, no stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto shall have been issued under the Securities Act, no order preventing or suspending the use of any

Preliminary Prospectus or the Prospectus shall have been issued and no proceedings for any of those purposes shall have been instituted or are pending or, to the Company's knowledge, contemplated by the Commission. The Company has complied with each request (if any) from the Commission for additional information. The prospectus containing the Rule 430A Information shall have been filed with the Commission in the manner and within the time frame required by Rule 424(b) under the Securities Act Regulations (without reliance on Rule 424(b)(8)) or a post-effective amendment providing such information shall have been filed with, and declared effective by, the Commission in accordance with the requirements of Rule 430A under the Securities Act Regulations. the Public Securities. At the time of such filing, the Company met the requirements of Form S-1 under the Securities Act. The Registration Statement meets the requirements set forth in Rule 415(a)(1)(iii) under the Securities Act with respect to the Warrant Shares and complies with said Rule.

4.1.2 FINRA Clearance. On or before the date of this Agreement, the Representative shall have received clearance from FINRA as to the amount of compensation allowable or payable to the Underwriters as described in the Registration Statement.

4.1.3 Exchange Stock Market Clearance. On or before the Closing Date, the Listing of Additional Shares Notification Form shall have been submitted to the Exchange with respect to the Public Securities (including the Warrant Shares).

#### 4.2 Company Counsel Matters.

4.2.1 Closing Date Opinion of Counsel. On the Closing Date, the Representative shall have received the favorable opinion of Gracin & Marlow, LLP, counsel to the Company, dated the Closing Date and addressed to the Representative, in a form reasonably acceptable to the Representative.

4.2.2 Opinion of Special Intellectual Property Counsel for the Company. On the Closing Date, the Representative shall have received the opinion of Morgan, Lewis & Bockius LLP, as special intellectual property counsel for the Company, dated the Closing Date and addressed to the Representative, in a form reasonably acceptable to the Representative.

4.2.3 Opinion of Special Regulatory Counsel for the Company. On the Closing Date, the Representative shall have received the opinion of Keller and Heckman LLP, special regulatory counsel for the Company, dated the Closing Date and addressed to the Representative, in a form reasonably acceptable to the Representative.

4.2.4 Option Closing Date Opinions of Counsel. On the Option Closing Date, if any, the Representative shall have received the favorable opinions of each counsel listed in Sections 4.2.1, 4.2.2 and 4.2.3, dated the Option Closing Date, addressed to the Representative and in form and substance reasonably satisfactory to the Representative, confirming as of the Option Closing Date, the statements made by such counsels in their respective opinions delivered on the Closing Date.

4.2.5 Reliance. In rendering such opinions, such counsel may rely: (i) as to matters involving the application of laws other than the laws of the United States and jurisdictions in which they are admitted, to the extent such counsel deems proper and to the extent specified in such opinion, if at all, upon an opinion or opinions (in form and substance reasonably satisfactory to the Representative) of other counsel reasonably acceptable to the Representative, familiar with the applicable laws; and (ii) as to matters of fact, to the extent they deem proper, on certificates or other written statements of officers of the Company and officers of departments of various jurisdictions having custody of documents respecting the corporate existence or good standing of the Company; *provided* that copies of any such statements or certificates shall be delivered to Representative Counsel if requested. The opinions of each of Gracin & Marlow, LLP,



Morgan, Lewis & Bockius LLP and Keller and Heckman LLP, and any opinion relied upon by any of Gracin & Marlow, LLP, Morgan, Lewis & Bockius LLP or Keller and Heckman LLP, shall include a statement to the effect that it may be relied upon by Representative Counsel in its opinion delivered to the Underwriters.

#### 4.3 Comfort Letters.

4.3.1 Cold Comfort Letter. At the time this Agreement is executed you shall have received a cold comfort letter containing statements and information of the type customarily included in accountants' comfort letters with respect to the financial statements and certain financial information contained or incorporated or deemed incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus, addressed to the Representative and in form and substance satisfactory in all respects to you and to the Auditor, dated as of the date of this Agreement.

4.3.2 Bring-down Comfort Letter. At each of the Closing Date and the Option Closing Date, if any, the Representative shall have received from the Auditor a letter, dated as of the Closing Date or the Option Closing Date, as applicable, to the effect that the Auditor reaffirms the statements made in the letter furnished pursuant to Section 4.3.1, except that the specified date referred to shall be a date not more than three (3) business days prior to the Closing Date or the Option Closing Date, as applicable.

#### 4.4 Officers' Certificates.

4.4.1 Officers' Certificate. The Company shall have furnished to the Representative a certificate, dated the Closing Date and any Option Closing Date (if such date is other than the Closing Date), of its Chief Executive Officer and its Controller stating that (i) such officers have carefully examined the Registration Statement, the Pricing Disclosure Package, any Issuer Free Writing Prospectus and the Prospectus and, in their opinion, the Registration Statement and each amendment thereto, as of the Applicable Time and as of the Closing Date (or any Option Closing Date if such date is other than the Closing Date) did not include any untrue statement of a material fact and did not omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading, and the Pricing Disclosure Package, as of the Applicable Time and as of the Closing Date (or any Option Closing Date if such date is other than the Closing Date), any Issuer Free Writing Prospectus as of its date and as of the Closing Date (or any Option Closing Date if such date is other than the Closing Date), and the Prospectus and each amendment or supplement thereto, as of the respective date thereof and as of the Closing Date, did not include any untrue statement of a material fact and did not omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances in which they were made, not misleading, (ii) since the Applicable Time, no event has occurred which should have been set forth in a supplement or amendment to the Registration Statement, the Pricing Disclosure Package or the Prospectus, (iii) to the best of their knowledge after reasonable investigation, as of the Closing Date (or any Option Closing Date if such date is other than the Closing Date), the representations and warranties of the Company in this Agreement are true and correct in all material respects and the Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied hereunder at or prior to the Closing Date (or any Option Closing Date if such date is other than the Closing Date), and (iv) there has not been, subsequent to the date of the most recent audited financial statements included or incorporated by reference in the Pricing Disclosure Package, any material adverse change in the financial position or results of operations of the Company, or any change or development that, singularly or in the aggregate, would involve a material adverse change or a prospective material adverse change, in or affecting the condition (financial or otherwise), results of operations, business, assets or prospects of the Company, except as set forth in the Prospectus.

4.4.2 Secretary's Certificate. At each of the Closing Date and the Option Closing Date, if any, the Representative shall have received a certificate of the Company signed by the Secretary of the Company, dated the Closing Date or the Option Date, as the case may be, respectively, certifying: (i) that each of the Charter and Bylaws is true and complete, has not been modified and is in full force and effect; (ii) that the resolutions of the Company's Board of Directors relating to the Offering are in full force and effect and have not been modified; (iii) as to the accuracy and completeness of all correspondence between the Company or its counsel and the Commission; and (iv) as to the incumbency of the officers of the Company. The documents referred to in such certificate shall be attached to such certificate.

4.4.3 Vice President of Finance Certificate. At each of the Closing Date and the Option Closing Date, if any, the Representative shall have received a certificate of the Vice President of Finance of the Company, dated the Closing Date or the Option Date, as the case may be, respectively, with respect to the accuracy of certain information contained in the Registration Statement, the Pricing Disclosure Package and the Prospectus, in a form reasonably acceptable to the Representative.

4.5 No Material Changes. Prior to and on each of the Closing Date and each Option Closing Date, if any: (i) there shall have been no material adverse change or development involving a prospective material adverse change in the condition or prospects or the business activities, financial or otherwise, of the Company from the latest dates as of which such condition is set forth in the Registration Statement and no change in the capital stock or debt of the Company, the Pricing Disclosure Package and the Prospectus; (ii) no action, suit or proceeding, at law or in equity, shall have been pending or threatened against the Company or any director or officer before or by any court or federal or state commission, board or other administrative agency wherein an unfavorable decision, ruling or finding may materially adversely affect the business, operations, prospects or financial condition or income of the Company, except as set forth in the Registration Statement, the Pricing Disclosure Package and the Prospectus; (iii) no stop order shall have been issued under the Securities Act and no proceedings therefor shall have been initiated or threatened by the Commission; (iv) no action shall have been taken and no law, statute, rule, regulation or order shall have been enacted, adopted or issued by any Governmental Entity which would prevent the issuance or sale of the Public Securities or materially and adversely affect or potentially materially and adversely affect the business or operations of the Company; (v) no injunction, restraining order or order of any other nature by any federal or state court of competent jurisdiction shall have been issued which would prevent the issuance or sale of the Public Securities or materially and adversely affect or potentially materially and adversely affect the business or operations of the Company and (vi) the Registration Statement, the Pricing Disclosure Package and the Prospectus and any amendments or supplements thereto shall contain all material statements which are required to be stated therein in accordance with the Securities Act and the Securities Act Regulations and shall conform in all material respects to the requirements of the Securities Act and the Securities Act Regulations, and neither the Registration Statement, the Pricing Disclosure Package, the Prospectus nor any amendment or supplement thereto shall contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

4.6 No Material Misstatement or Omission. The Underwriters shall not have discovered and disclosed to the Company on or prior to the Closing Date and any Option Closing Date that the Registration Statement or any amendment or supplement thereto contains an untrue statement of a fact which, in the opinion of counsel for the Underwriters, is material or omits to state any fact which, in the opinion of such counsel, is material and is required to be stated therein or is necessary to make the statements therein not misleading, or that the Registration Statement, Pricing Disclosure Package or the Prospectus or any amendment or supplement thereto contains an untrue statement of fact which, in the opinion of such counsel, is material or omits to state any fact which, in the opinion of such counsel, is material and is necessary in order to make the statements, in the light of the circumstances under which they were made, not misleading.

4.7 Corporate Proceedings. All corporate proceedings and other legal matters incident to the authorization, form and validity of each of this Agreement, the Public Securities, the Registration Statement, the Pricing Disclosure Package and the Prospectus and all other legal matters relating to this Agreement and the transactions contemplated hereby and thereby shall be reasonably satisfactory in all material respects to counsel for the Underwriters, and the Company shall have furnished to such counsel all documents and information that they may reasonably request to enable them to pass upon such matters.

4.8 Delivery of Agreements.

4.8.1 Lock-Up Agreements. On or before the date of this Agreement, the Company shall have delivered to the Representative executed copies of the Lock-Up Agreements from each of the persons listed in Schedule 3 hereto.

4.8.2 Pre-Funded Warrant Agreements. On the Closing Date, the Company shall have delivered the Representative executed copies of the Pre-Funded Warrant Agreements.

4.9 Additional Documents. At the Closing Date and at each Option Closing Date (if any) Representative Counsel shall have been furnished with such documents and opinions as they may require for the purpose of enabling Representative Counsel to deliver an opinion to the Underwriters, or in order to evidence the accuracy of any of the representations or warranties, or the fulfillment of any of the conditions, herein contained; and all proceedings taken by the Company in connection with the issuance and sale of the Public Securities as herein contemplated shall be satisfactory in form and substance to the Representative and Representative Counsel.

5. Indemnification.

5.1 Indemnification of the Underwriters.

5.1.1 General. Subject to the conditions set forth below, the Company agrees to indemnify and hold harmless each Underwriter, its affiliates and each of its and their respective directors, officers, members, employees, representatives and agents and each person, if any, who controls any such Underwriter within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act (collectively the “**Underwriter Indemnified Parties**,” and each an “**Underwriter Indemnified Party**”), against any and all loss, liability, claim, damage and expense whatsoever (including but not limited to any and all legal or other expenses reasonably incurred in investigating, preparing or defending against any litigation, commenced or threatened, or any claim whatsoever, whether arising out of any action between any of the Underwriter Indemnified Parties and the Company or between any of the Underwriter Indemnified Parties and any third party, or otherwise) to which they or any of them may become subject under the Securities Act, the Exchange Act or any other statute or at common law or otherwise or under the laws of foreign countries, arising out of or based upon any untrue statement or alleged untrue statement of a material fact contained in (i) the Registration Statement, the Pricing Disclosure Package, the Preliminary Prospectus, the Prospectus or any Issuer Free Writing Prospectus (as from time to time each may be amended and supplemented); (ii) any materials or information provided to investors by, or with the approval of, the Company in connection with the marketing of the Offering, including any “road show” or investor presentations made to investors by the Company (whether in person or electronically); or (iii) any application or other document or written communication (in this Section 5, collectively called “**application**”) executed by the Company or based upon written information furnished by the Company in any jurisdiction in order to qualify the Public Securities under the securities laws thereof or filed with the Commission, any state securities commission or agency, the Exchange or any other national securities exchange; or the omission or alleged omission therefrom of a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not

misleading, unless such statement or omission was made in reliance upon, and in conformity with, the Underwriters' Information. With respect to any untrue statement or omission or alleged untrue statement or omission made in the Pricing Disclosure Package, the indemnity agreement contained in this Section 5.1.1 shall not inure to the benefit of any Underwriter Indemnified Party to the extent that any loss, liability, claim, damage or expense of such Underwriter Indemnified Party results from the fact that a copy of the Prospectus was not given or sent to the person asserting any such loss, liability, claim or damage at or prior to the written confirmation of sale of the Public Securities to such person as required by the Securities Act and the Securities Act Regulations, and if the untrue statement or omission has been corrected in the Prospectus, unless such failure to deliver the Prospectus was a result of non-compliance by the Company with its obligations under Section 3.3 hereof.

5.1.2 Procedure. If any action is brought against an Underwriter Indemnified Party in respect of which indemnity may be sought against the Company pursuant to Section 5.1.1, such Underwriter Indemnified Party shall promptly notify the Company in writing of the institution of such action and the Company shall assume the defense of such action, including the employment and fees of counsel (subject to the reasonable approval of such Underwriter Indemnified Party) and payment of actual expenses. Such Underwriter Indemnified Party shall have the right to employ its or their own counsel in any such case, but the fees and expenses of such counsel shall be at the expense of such Underwriter Indemnified Party unless (i) the employment of such counsel at the expense of the Company shall have been authorized in writing by the Company in connection with the defense of such action, or (ii) the Company shall not have employed counsel to have charge of the defense of such action, or (iii) such indemnified party or parties shall have reasonably concluded that there may be defenses available to it or them which are different from or additional to those available to the Company (in which case the Company shall not have the right to direct the defense of such action on behalf of the indemnified party or parties), in any of which events the reasonable fees and expenses of not more than one additional firm of attorneys selected by the Underwriter Indemnified Party (in addition to local counsel) shall be borne by the Company. Notwithstanding anything to the contrary contained herein, if any Underwriter Indemnified Party shall assume the defense of such action as provided above, the Company shall have the right to approve the terms of any settlement of such action, which approval shall not be unreasonably withheld.

5.2 Indemnification of the Company. Each Underwriter, severally and not jointly, agrees to indemnify and hold harmless the Company, its directors, its officers who signed the Registration Statement and persons who control the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act against any and all loss, liability, claim, damage and expense described in the foregoing indemnity from the Company to the several Underwriters, as incurred, but only with respect to untrue statements or omissions, or alleged untrue statements or omissions made in the Registration Statement, any Preliminary Prospectus, the Pricing Disclosure Package or Prospectus or any amendment or supplement thereto or in any application, in reliance upon, and in strict conformity with, the Underwriters' Information. In case any action shall be brought against the Company or any other person so indemnified based on any Preliminary Prospectus, the Registration Statement, the Pricing Disclosure Package or Prospectus or any amendment or supplement thereto or any application, and in respect of which indemnity may be sought against any Underwriter, such Underwriter shall have the rights and duties given to the Company, and the Company and each other person so indemnified shall have the rights and duties given to the several Underwriters by the provisions of Section 5.1.2. The Company agrees promptly to notify the Representative of the commencement of any litigation or proceedings against the Company or any of its officers, directors or any person, if any, who controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act, in connection with the issuance and sale of the Public Securities or in connection with the Registration Statement, the Pricing Disclosure Package, the Prospectus or any Issuer Free Writing Prospectus.

### 5.3 Contribution.

5.3.1 Contribution Rights. If the indemnification provided for in this Section 5 shall for any reason be unavailable to or insufficient to hold harmless an indemnified party under Section 5.1 or 5.2 in respect of any loss, claim, damage or liability, or any action in respect thereof, referred to therein, then each indemnifying party shall, in lieu of indemnifying such indemnified party, contribute to the amount paid or payable by such indemnified party as a result of such loss, claim, damage or liability, or action in respect thereof, (i) in such proportion as shall be appropriate to reflect the relative benefits received by the Company, on the one hand, and the Underwriters, on the other, from the Offering of the Public Securities, or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company, on the one hand, and the Underwriters, on the other, with respect to the statements or omissions that resulted in such loss, claim, damage or liability, or action in respect thereof, as well as any other relevant equitable considerations. The relative benefits received by the Company, on the one hand, and the Underwriters, on the other, with respect to such Offering shall be deemed to be in the same proportion as the total net proceeds from the Offering of the Public Securities purchased under this Agreement (before deducting expenses) received by the Company, as set forth in the table on the cover page of the Prospectus, on the one hand, and the total underwriting discounts and commissions received by the Underwriters with respect to the shares of the Common Stock purchased under this Agreement, as set forth in the table on the cover page of the Prospectus, on the other hand. The relative fault shall be determined by reference to whether the untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company or the Underwriters, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and the Underwriters agree that it would not be just and equitable if contributions pursuant to this Section 5.3.1 were to be determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation that does not take into account the equitable considerations referred to herein. The amount paid or payable by an indemnified party as a result of the loss, claim, damage or liability, or action in respect thereof, referred to above in this Section 5.3.1 shall be deemed to include, for purposes of this Section 5.3.1, any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this Section 5.3.1 in no event shall an Underwriter be required to contribute any amount in excess of the amount by which the total underwriting discounts and commissions received by such Underwriter with respect to the Offering of the Public Securities exceeds the amount of any damages that such Underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

5.3.2 Contribution Procedure. Within fifteen (15) days after receipt by any party to this Agreement (or its representative) of notice of the commencement of any action, suit or proceeding, such party will, if a claim for contribution in respect thereof is to be made against another party ("contributing party"), notify the contributing party of the commencement thereof, but the failure to so notify the contributing party will not relieve it from any liability which it may have to any other party other than for contribution hereunder. In case any such action, suit or proceeding is brought against any party, and such party notifies a contributing party or its representative of the commencement thereof within the aforesaid 15 days, the contributing party will be entitled to participate therein with the notifying party and any other contributing party similarly notified. Any such contributing party shall not be liable to any party seeking contribution on account of any settlement of any claim, action or proceeding affected by such party seeking contribution on account of any settlement of any claim, action or proceeding affected by such party seeking contribution without the written consent of such contributing party. The contribution provisions contained in this Section 5.3.2 are intended to supersede, to the extent permitted by law, any right to contribution

under the Securities Act, the Exchange Act or otherwise available. Each Underwriter's obligations to contribute pursuant to this Section 5.3 are several and not joint.

6. Default by an Underwriter.

6.1 Default Not Exceeding 10% of Firm Securities or Option Shares. If any Underwriter or Underwriters shall default in its or their obligations to purchase the Firm Securities or the Option Shares, if the Over-allotment Option is exercised hereunder, and if the number of the Firm Securities or Option Shares with respect to which such default relates does not exceed in the aggregate 10% of the number of Firm Securities or Option Shares that all Underwriters have agreed to purchase hereunder, then such Firm Securities or Option Shares to which the default relates shall be purchased by the non-defaulting Underwriters in proportion to their respective commitments hereunder.

6.2 Default Exceeding 10% of Firm Securities or Option Shares. In the event that the default addressed in Section 6.1 relates to more than 10% of the Firm Securities or Option Shares, you may in your discretion arrange for yourself or for another party or parties to purchase such Firm Securities or Option Shares to which such default relates on the terms contained herein. If, within one (1) Business Day after such default relating to more than 10% of the Firm Securities or Option Shares, you do not arrange for the purchase of such Firm Securities or Option Shares, then the Company shall be entitled to a further period of one (1) Business Day within which to procure another party or parties satisfactory to you to purchase said Firm Securities or Option Shares on such terms. In the event that neither you nor the Company arrange for the purchase of the Firm Securities or Option Shares to which a default relates as provided in this Section 6, this Agreement will automatically be terminated by you or the Company without liability on the part of the Company (except as provided in Sections 3.9 and 5 hereof) or the several Underwriters (except as provided in Section 5 hereof); *provided, however*, that if such default occurs with respect to the Option Shares, this Agreement will not terminate as to the Firm Securities; and *provided, further*, that nothing herein shall relieve a defaulting Underwriter of its liability, if any, to the other Underwriters and to the Company for damages occasioned by its default hereunder.

6.3 Postponement of Closing Date. In the event that the Firm Securities or Option Shares to which the default relates are to be purchased by the non-defaulting Underwriters, or are to be purchased by another party or parties as aforesaid, you or the Company shall have the right to postpone the Closing Date or Option Closing Date for a reasonable period, but not in any event exceeding five (5) Business Days, in order to effect whatever changes may thereby be made necessary in the Registration Statement, the Pricing Disclosure Package or the Prospectus or in any other documents and arrangements, and the Company agrees to file promptly any amendment to the Registration Statement, the Pricing Disclosure Package or the Prospectus that in the opinion of counsel for the Underwriter may thereby be made necessary. The term "**Underwriter**" as used in this Agreement shall include any party substituted under this Section 6 with like effect as if it had originally been a party to this Agreement with respect to such shares of Common Stock.

7. Additional Covenants.

7.1 Board Composition and Board Designations. The Company shall ensure that: (i) the qualifications of the persons serving as members of the Board of Directors and the overall composition of the Board comply with the Sarbanes-Oxley Act, with the Exchange Act and with the listing rules of the Exchange or any other national securities exchange, as the case may be, in the event the Company seeks to have its Public Securities listed on another exchange or quoted on an automated quotation system, and (ii) if applicable, at least one member of the Audit Committee of the Board of Directors qualifies as an "audit committee financial expert," as such term is defined under Regulation S-K and the listing rules of the Exchange.

7.2 Prohibition on Press Releases and Public Announcements. The Company shall not issue press releases or engage in any other publicity, without the Representative's prior written consent, for a period ending at 5:00 p.m., Eastern time, on the first (1<sup>st</sup>) Business Day following the forty-fifth (45<sup>th</sup>) day after the Closing Date, other than normal and customary releases issued in the ordinary course of the Company's business.

8. Effective Date of this Agreement and Termination Thereof.

8.1 Effective Date. This Agreement shall become effective when both the Company and the Representative have executed the same and delivered counterparts of such signatures to the other party.

8.2 Termination. The Representative shall have the right to terminate this Agreement at any time prior to any Closing Date, (i) if any domestic or international event or act or occurrence has materially disrupted, or in your opinion will in the immediate future materially disrupt, general securities markets in the United States; or (ii) if trading on the New York Stock Exchange or the Nasdaq Stock Market LLC shall have been suspended or materially limited, or minimum or maximum prices for trading shall have been fixed, or maximum ranges for prices for securities shall have been required by FINRA or by order of the Commission or any other government authority having jurisdiction; or (iii) if the United States shall have become involved in a new war or an increase in major hostilities; or (iv) if a banking moratorium has been declared by a New York State or federal authority; or (v) if a moratorium on foreign exchange trading has been declared which materially adversely impacts the United States securities markets; or (vi) if the Company shall have sustained a material loss by fire, flood, accident, hurricane, earthquake, theft, sabotage or other calamity or malicious act which, whether or not such loss shall have been insured, will, in your opinion, make it inadvisable to proceed with the delivery of the Firm Securities or Option Shares; or (vii) if the Company is in material breach of any of its representations, warranties or covenants hereunder; or (viii) if the Representative shall have become aware after the date hereof of such a material adverse change in the conditions or prospects of the Company, or such adverse material change in general market conditions as in the Representative's judgment would make it impracticable to proceed with the offering, sale and/or delivery of the Public Securities or to enforce contracts made by the Underwriters for the sale of the Public Securities.

8.3 Expenses. Notwithstanding anything to the contrary in this Agreement, except in the case of a default by the Underwriters, pursuant to Section 6.2 above, in the event that this Agreement shall not be carried out for any reason whatsoever, within the time specified herein or any extensions thereof pursuant to the terms herein, the Company shall be obligated to pay to the Underwriters their actual and accountable out-of-pocket expenses related to the transactions contemplated herein then due and payable (including the fees and disbursements of Representative Counsel) up to \$75,000 and upon demand the Company shall pay the full amount thereof to the Representative on behalf of the Underwriters; *provided, however*, that such expense cap in no way limits or impairs the indemnification and contribution provisions of this Agreement.

8.4 Survival of Indemnification. Notwithstanding any contrary provision contained in this Agreement, any election hereunder or any termination of this Agreement, and whether or not this Agreement is otherwise carried out, the provisions of Section 5 shall remain in full force and effect and shall not be in any way affected by, such election or termination or failure to carry out the terms of this Agreement or any part hereof.

8.5 Representations, Warranties, Agreements to Survive. All representations, warranties and agreements contained in this Agreement or in certificates of officers of the Company submitted pursuant hereto, shall remain operative and in full force and effect regardless of (i) any investigation made by or on behalf of any Underwriter or its Affiliates or selling agents, any person controlling any Underwriter, its

officers or directors or any person controlling the Company or (ii) delivery of and payment for the Public Securities.

9. Miscellaneous.

9.1 Notices. All communications hereunder, except as herein otherwise specifically provided, shall be in writing and shall be mailed (registered or certified mail, return receipt requested), personally delivered or sent by facsimile transmission and confirmed and shall be deemed given when so delivered or faxed and confirmed or if mailed, two (2) days after such mailing.

If to the Representative:

A.G.P./Alliance Global Partners  
590 Madison Avenue, 36<sup>th</sup> Floor  
New York, New York 10022  
Attn: Mr. David Bocchi, Managing Director of Investment Banking  
Fax No.: (212) 813-1047

with a copy (which shall not constitute notice) to:

Zysman, Aharoni, Gayer and Sullivan & Worcester LLP  
1633 Broadway  
New York, New York 10019  
Attention: Oded Har-Even, Esq.  
Fax No.: (212) 660-3000

If to the Company:

Heat Biologics, Inc.  
801 Capitola Drive  
Durham, North Carolina 27713  
Attention: Jeffrey Wolf, Chief Executive Officer  
Fax No: (305) 503-8566

with a copy (which shall not constitute notice) to:

Gracin & Marlow, LLP  
The Chrysler Building  
405 Lexington Avenue, 26<sup>th</sup> Floor  
New York, New York 10174  
Attention: Leslie Marlow, Esq.  
Fax No: (212) 208-4657

9.2 Research Analyst Independence. The Company acknowledges that each Underwriter's research analysts and research departments are required to be independent from its investment banking division and are subject to certain regulations and internal policies, and that such Underwriter's research analysts may hold views and make statements or investment recommendations and/or publish research reports with respect to the Company and/or the offering that differ from the views of their investment banking division. The Company acknowledges that each Underwriter is a full service securities firm and as such from time to time, subject to applicable securities laws, rules and regulations, may effect transactions



for its own account or the account of its customers and hold long or short positions in debt or equity securities of the Company; *provided*, *however*, that nothing in this Section 9.2 shall relieve the Underwriter of any responsibility or liability it may otherwise bear in connection with activities in violation of applicable securities laws, rules or regulations.

9.3 Headings. The headings contained herein are for the sole purpose of convenience of reference, and shall not in any way limit or affect the meaning or interpretation of any of the terms or provisions of this Agreement.

9.4 Amendment. This Agreement may only be amended by a written instrument executed by each of the parties hereto.

9.5 Entire Agreement. This Agreement (together with the other agreements and documents being delivered pursuant to or in connection with this Agreement) constitutes the entire agreement of the parties hereto with respect to the subject matter hereof and thereof, and supersedes all prior agreements and understandings of the parties, oral and written, with respect to the subject matter hereof.

9.6 Binding Effect. This Agreement shall inure solely to the benefit of and shall be binding upon the Representative, the Underwriters, the Company and the controlling persons, directors and officers referred to in Section 5 hereof, and their respective successors, legal representatives, heirs and assigns, and no other person shall have or be construed to have any legal or equitable right, remedy or claim under or in respect of or by virtue of this Agreement or any provisions herein contained. The term "successors and assigns" shall not include a purchaser, in its capacity as such, of securities from any of the Underwriters.

9.7 Governing Law; Consent to Jurisdiction; Trial by Jury. This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of New York, without giving effect to conflict of laws principles thereof. The Company hereby agrees that any action, proceeding or claim against it arising out of, or relating in any way to this Agreement shall be brought and enforced in the New York Supreme Court, County of New York, or in the United States District Court for the Southern District of New York, and irrevocably submits to such jurisdiction, which jurisdiction shall be exclusive. The Company hereby waives any objection to such exclusive jurisdiction and that such courts represent an inconvenient forum. Any such process or summons to be served upon the Company may be served by transmitting a copy thereof by registered or certified mail, return receipt requested, postage prepaid, addressed to it at the address set forth in Section 9.1 hereof. Such mailing shall be deemed personal service and shall be legal and binding upon the Company in any action, proceeding or claim. The Company agrees that the prevailing party(ies) in any such action shall be entitled to recover from the other party(ies) all of its reasonable attorneys' fees and expenses relating to such action or proceeding and/or incurred in connection with the preparation therefor. The Company (on its behalf and, to the extent permitted by applicable law, on behalf of its stockholders and affiliates) and each of the Underwriters hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.

9.8 Execution in Counterparts. This Agreement may be executed in one or more counterparts, and by the different parties hereto in separate counterparts, each of which shall be deemed to be an original, but all of which taken together shall constitute one and the same agreement, and shall become effective when one or more counterparts has been signed by each of the parties hereto and delivered to each of the other parties hereto. Delivery of a signed counterpart of this Agreement by facsimile or email/pdf transmission shall constitute valid and sufficient delivery thereof.

9.9 Waiver, etc. The failure of any of the parties hereto to at any time enforce any of the provisions of this Agreement shall not be deemed or construed to be a waiver of any such provision, nor to

in any way effect the validity of this Agreement or any provision hereof or the right of any of the parties hereto to thereafter enforce each and every provision of this Agreement. No waiver of any breach, non-compliance or non-fulfillment of any of the provisions of this Agreement shall be effective unless set forth in a written instrument executed by the party or parties against whom or which enforcement of such waiver is sought; and no waiver of any such breach, non-compliance or non-fulfillment shall be construed or deemed to be a waiver of any other or subsequent breach, non-compliance or non-fulfillment.

**[ *Signature Page Follows* ]**

If the foregoing correctly sets forth the understanding between the Underwriters and the Company, please so indicate in the space provided below for that purpose, whereupon this letter shall constitute a binding agreement between us.

Very truly yours,

HEAT BIOLOGICS, INC.

By: \_\_\_\_\_

Name: Jeffrey Wolf

Title: Chairman, CEO

Confirmed as of the date first written above mentioned, on behalf of itself and as Representative of the several Underwriters named on Schedule 1 hereto:

A.G.P./ALLIANCE GLOBAL PARTNERS

By: \_\_\_\_\_

Name: David Bocchi

Title: Head of Investment Banking

[SIGNATURE PAGE]

HEAT BIOLOGICS, INC. - UNDERWRITING AGREEMENT

---

**SCHEDULE 1**

<b>Underwriter</b>	<b>Total Number of Firm Shares to be Purchased</b>	<b>Total Number of Pre-Funded Warrants to be Purchased</b>	<b>Number of Additional Shares to be Purchased if the Over-Allotment Option is Fully Exercised by the Representative</b>
A.G.P./Alliance Global Partners			
CIM Securities, LLC			
<b>TOTAL</b>			

**SCHEDULE 2-A**  
**Pricing Information**

Number of Firm Shares:

Number of Pre-Funded Warrants:

Number of Option Shares:

Public Offering Price per Share: \$

Public Offering Price per Pre-Funded Warrant: \$

Underwriting Discount per Share: \$

Underwriting Discount per Pre-Funded Warrant: \$

Proceeds to Company per Share (before expenses): \$

Proceeds to Company per Pre-Funded Warrant (before expenses): \$

**SCHEDULE 2-B**

**Issuer General Use Free Writing Prospectuses**

Issuer General Use Free Writing Prospectus filed with the Commission on April 20, 2018.

**SCHEDULE 3**

**List of Lock-Up Parties**

Jeffrey Wolf

Jeff Hutchins, Ph.D.

Ann Rosar, M.B.A.

John Monahan, Ph.D.

Edward B. Smith, III

John K.A. Prendergast, Ph.D.

Aristar Capital (f/k/a Brightline Ventures III, LLC)

Orion Holdings V, LLC

Seed-One Holdings VI, LLC

## EXHIBIT A

### Form of Lock-Up Agreement

[ ], 2018

Alliance Global Partners  
590 Madison Avenue, 36<sup>th</sup> Floor  
New York, New York 10022

Ladies and Gentlemen:

The undersigned understands that A.G.P./Alliance Global Partners, as Representative of the several underwriters (the “**Representative**”), proposes to enter into an Underwriting Agreement (the “**Underwriting Agreement**”) with Heat Biologics, Inc., a Delaware corporation (the “**Company**”), providing for the public offering (the “**Public Offering**”) by the several Underwriters named in Schedule A to the Underwriting Agreement (the “**Underwriters**”) of shares of common stock, par value \$0.0002 per share, of the Company (the “**Shares**”). Capitalized terms used herein and not otherwise defined shall have the meanings set forth in the Underwriting Agreement.

To induce the Representative to continue its efforts in connection with the Public Offering, the undersigned hereby agrees that, without the prior written consent of the Representative, the undersigned will not, during the period commencing on the date hereof and ending ninety (90) days after Closing Date (the “**Lock-Up Period**”), (1) offer, pledge, sell, contract to sell, grant, lend, or otherwise transfer or dispose of, directly or indirectly, any Shares or any securities convertible into or exercisable or exchangeable for Shares, whether now owned or hereafter acquired by the undersigned or with respect to which the undersigned has or hereafter acquires the power of disposition (collectively, the “**Lock-Up Securities**”); (2) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the Lock-Up Securities, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of Lock-Up Securities, in cash or otherwise; (3) make any demand for or exercise any right with respect to the registration of any Lock-Up Securities; or (4) publicly disclose the intention to make any offer, sale, pledge or disposition, or to enter into any transaction, swap, hedge or other arrangement relating to any Lock-Up Securities. Notwithstanding the foregoing, and subject to the conditions below, the undersigned may transfer Lock-Up Securities without the prior written consent of the Representative in connection with (a) transactions relating to Lock-Up Securities acquired in open market transactions after the completion of the Public Offering; *provided* that no filing under Section 16(a) of the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”), shall be required or shall be voluntarily made in connection with subsequent sales of Lock-Up Securities acquired in such open market transactions; (b) transfers of Lock-Up Securities as a *bona fide* gift, by will or intestacy or to a family member or trust for the benefit of a family member (for purposes of this lock-up agreement, “family member” means any relationship by blood, marriage or adoption, not more remote than first cousin); (c) transfers of Lock-Up Securities to a charity or educational institution; or (d) if the undersigned, directly or indirectly, controls a corporation, partnership, limited liability company or other business entity, any transfers of Lock-Up Securities to any shareholder, partner or member of, or owner of similar equity interests in, the undersigned, as the case may be; *provided* that in the case of any transfer pursuant to the foregoing clauses (b), (c) or (d), (i) any such transfer shall not involve a disposition for value, (ii) each transferee shall sign and deliver to the Representative a lock-up agreement substantially in the form of this lock-up agreement and (iii) no filing under Section 16(a) of the Exchange Act shall be required or shall be voluntarily made. The undersigned also agrees and consents to the entry of stop transfer instructions with the Company’s transfer agent and registrar against the transfer of the undersigned’s Lock-Up Securities except in compliance with this lock-up agreement.

Ex. A-1

---

If the undersigned is an officer or director of the Company, (i) the undersigned agrees that the foregoing restrictions shall be equally applicable to any issuer-directed or “friends and family” Shares that the undersigned may purchase in the Public Offering; (ii) the Representative agrees that, at least three (3) business days before the effective date of any release or waiver of the foregoing restrictions in connection with a transfer of Lock-Up Securities, the Representative will notify the Company of the impending release or waiver; and (iii) the Company has agreed in the Underwriting Agreement to announce the impending release or waiver by press release through a major news service at least two (2) business days before the effective date of the release or waiver. Any release or waiver granted by the Representative hereunder to any such officer or director shall only be effective two (2) business days after the publication date of such press release. The provisions of this paragraph will not apply if (a) the release or waiver is effected solely to permit a transfer of Lock-Up Securities not for consideration and (b) the transferee has agreed in writing to be bound by the same terms described in this lock-up agreement to the extent and for the duration that such terms remain in effect at the time of such transfer.

The undersigned agrees that, prior to engaging in any transaction or taking any other action that is subject to the terms of this lock-up agreement during the period from the date hereof to and including the 34<sup>th</sup> day following the expiration of the initial Lock-Up Period, the undersigned will give notice thereof to the Company and will not consummate any such transaction or take any such action unless it has received written confirmation from the Company that the Lock-Up Period (as may have been extended pursuant to the previous paragraph) has expired.

No provision in this agreement shall be deemed to restrict or prohibit the exercise, exchange or conversion by the undersigned of any securities exercisable or exchangeable for or convertible into Shares, as applicable; *provided* that the undersigned does not transfer the Shares acquired on such exercise, exchange or conversion during the Lock-Up Period, unless otherwise permitted pursuant to the terms of this lock-up agreement. In addition, no provision herein shall be deemed to restrict or prohibit the entry into or modification of a so-called “10b5-1” plan at any time (other than the entry into or modification of such a plan in such a manner as to cause the sale of any Lock-Up Securities within the Lock-Up Period).

The undersigned understands that the Company and the Representative are relying upon this lock-up agreement in proceeding toward consummation of the Public Offering. The undersigned further understands that this lock-up agreement is irrevocable and shall be binding upon the undersigned’s heirs, legal representatives, successors and assigns.

The undersigned understands that, if the Underwriting Agreement is not executed by September 30, 2018, or if the Underwriting Agreement (other than the provisions thereof which survive termination) shall terminate or be terminated prior to the initial closing date of the Shares to be sold thereunder, then this lock-up agreement shall be void and of no further force or effect.

**[Remainder of Page Intentionally Blank]**



Whether or not the Public Offering actually occurs depends on a number of factors, including market conditions. Any Public Offering will only be made pursuant to an Underwriting Agreement, the terms of which are subject to negotiation between the Company and the Representative.

Very truly yours,

\_\_\_\_\_  
(Name - Please Print)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Name of Signatory, in the case of entities - Please Print)

\_\_\_\_\_  
(Title of Signatory, in the case of entities - Please Print)

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We hereby consent to the incorporation by reference in the Prospectus constituting a part of this Registration Statement of our report dated March 2, 2018, relating to the consolidated financial statements of Heat Biologics, Inc. (the “Company”), which is incorporated by reference in that Prospectus. Our report contains an explanatory paragraph regarding the Company’s ability to continue as a going concern.

We also consent to the reference to us under the caption “Experts” in the Prospectus.

/s/ BDO USA, LLP

Raleigh, North Carolina  
April 26, 2018