

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

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.
Gracin & Marlow, LLP
The Chrysler Building
405 Lexington Avenue, 26th Floor
New York, New York 10174
(212) 907-6457**

**John D. Hogoboom, Esq.
Lowenstein Sandler LLP
1251 Avenue of the Americas
New York, New York 10020
(212) 262-6700**

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, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. 333-209079

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, 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, 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, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer
Non-accelerated filer Smaller reporting company
(Do not check if a smaller reporting company)

The registrant is an “emerging growth company,” as defined in Section 2(a) of the Securities Act of 1933, as amended. This registration statement complies with the requirements that apply to an issuer that is an emerging growth company.

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Proposed maximum aggregate offering price(1)	Amount of registration fee(2)
Common Stock, \$0.0002 par value (2)		
Warrants to purchase shares of common stock (2)(3)		
Shares of common stock issuable upon exercise of the Warrants (2)(3)		
Total	\$2,275,000	\$229.09 (4)

- (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) Included in the registration fee paid for the common stock pursuant to Rule 457(o) and Rule 457(g)
- (4) The Registrant previously registered \$11,375,000 in aggregate offering price of its common stock, warrants and shares of its common stock underlying the warrants on its Registration Statement (the “Initial Registration Statement”) on Form S-1 (333-209079), which was declared effective on March 17, 2016. The Registrant previously paid a registration fee of \$1,448 in respect of the Initial Registration Statement. All registration fees have been previously paid.

This Registration Statement shall become effective upon filing in accordance with Rule 462(b) under the Securities Act of 1933, as amended.

Explanatory Note

This registration statement is being filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and includes the registration statement facing page, this page, the signature page, an exhibit index and an opinion of counsel regarding the legality of the securities being registered and a related consent and the consent of the Company's independent registered public accounting firm. This registration statement relates to our registration statement on Form S-1 (File No 333-209079), as amended, and including the exhibits and power of attorney thereto (the "Initial Registration Statement"), initially filed by the Company on January 21, 2016 and declared effective by the Securities and Exchange Commission on March 17, 2016. We are filing this registration statement for the sole purpose of increasing the proposed maximum offering price of the securities offered by us by \$2,275,000 under Rule 462(b). Pursuant to Rules 462(b), the contents of the Initial Registration Statement, including the exhibits thereto, are incorporated by reference into this registration statement.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Durham, State of North Carolina, March 18, 2016.

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)	March 18, 2016
<u>/s/ Timothy Creech</u> Timothy Creech	Chief Financial Officer (Principal Financial and Accounting Officer)	March 18, 2016
<u>*</u> John Monahan, Ph.D.	Director	March 18, 2016
<u>*</u> Michael Kharitonov, Ph.D.	Director	March 18, 2016
<u>*</u> Louis C. Bock	Director	March 18, 2016
<u>*</u> Paul Belsky, MD	Director	March 18, 2016
<u>*</u> Edward B. Smith	Director	March 18, 2016

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

EXHIBIT INDEX

Exhibit No.	Description
5.1	Legal Opinion of Gracin & Marlow, LLP
23.1	Consent of Independent Registered Public Accounting Firm (BDO USA, LLP)
23.2	Consent of Gracin & Marlow, LLP (included in Exhibit 5.1)
24.1*	Power of Attorney

* Previously filed as an exhibit to the Registrant's Registration Statement on Form S-1 (File No. 333-209079) filed with the SEC on January 21, 2016, and incorporated herein by reference.



The Chrysler Building
405 Lexington Avenue, 26th Floor
New York, New York 10174
Telephone (212) 907-6457
www.gracinmarlow.com

March 18, 2016

The Board of Directors of Heat Biologics, Inc.
801 Capitola Drive
Durham, North Carolina 27713

Re: Registration Statement on Form S-1 Pursuant to Rule 462(b)

Ladies and Gentlemen:

We have acted as U.S. securities counsel to Heat Biologics, Inc., a Delaware corporation (the "Company"), in connection with the preparation and filing with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act"), of a Registration Statement on Form S-1 (the "Registration Statement"), pursuant to Rule 462(b) under the Securities Act, relating to an aggregate of 458,024 shares (the "Shares") of the Company's common stock, par value \$0.0002 per share (the "Common Stock"), and related warrants ("Warrants") to purchase 2,504,012 shares of Common Stock (the "Warrant Shares"), such Shares and Warrants to be included in a public offering, of which 8,641,976 shares of Common Stock and 4,320,988 Warrants were previously registered under a registration statement on Form S-1 (File No. 333-209079) (the "Initial Registration Statement"), which became effective under the Securities Act on March 17, 2016 and the contents of which are incorporated by reference in the Registration Statement.

The Shares, Warrants and Warrant Shares are being sold by the Company pursuant to an underwriting agreement (the "Underwriting Agreement") to be entered into by and between the Company and Roth Capital Partners, LLC and Aegis Capital Corp., as representatives of the underwriters listed on Schedule I to the Underwriting Agreement, the form of which Underwriting Agreement was filed as Exhibit 1.2 to the Initial Registration Statement filed on March 15, 2016.

In rendering the opinion set forth herein, we have examined originals or copies, certified or otherwise identified to our satisfaction, of such documents, corporate records, certificates of public officials and other instruments as we have deemed necessary or advisable for the purposes of rendering this opinion and we are familiar with the proceedings taken and proposed to be taken by the Company in connection with the authorization, issuance and sale of the Shares, the Warrants and the Warrant Shares.

In such examination, we have assumed the genuineness of all signatures, the legal capacity of natural persons, the authenticity of all items submitted to us as originals, the conformity with originals of all items submitted to us as copies, and the authenticity of the originals of such copies. As to any facts material to the opinions expressed herein that we did not independently establish or verify, we have relied upon statements and representations of officers and other representatives of the Company and public officials.



Based upon and subject to the foregoing, we are of the opinion (i) that the Shares have been duly and validly authorized, and upon their issuance, delivery and payment therefor in the manner contemplated by the Underwriting Agreement, will be legally issued, fully paid and non-assessable under the laws of the State of Delaware; (ii) the Warrants have been duly and validly authorized, and upon their issuance, delivery and payment therefor in the manner contemplated by their terms and the Underwriting Agreement, will be valid and binding obligations of the Company; and (iii) the Warrant Shares, when issued and paid for in accordance with the terms of the Warrants will be validly issued, fully paid and non-assessable. We express no opinion as to matters governed by any laws other than the General Corporation Law of the State of Delaware (including all related provisions of the Delaware Constitution and all reported judicial decisions interpreting the General Corporation Law of the State of Delaware and the Delaware Constitution), the State of New York and the federal laws of the United States of America, as in effect on the date hereof.

We consent to the inclusion of this opinion as an exhibit to the Registration Statement and further consent to all references to us under the caption "Legal Matters" in the Prospectus. In giving this consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission.

This opinion is delivered solely in connection with the consummation of the transactions described herein, and may not be relied upon by you for any other purpose nor by any other person for any purpose.

Very truly yours,

/s/ Gracin & Marlow, LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Heat Biologics, Inc.
Durham, North Carolina

We hereby consent to the incorporation by reference in the Prospectus constituting a part of the Registration Statement of Heat Biologics, Inc. on Form S-1 (No. 333-209079) and to the incorporation by reference in this Registration Statement on Form S-1 filed pursuant to Rule 462(b) of the Securities Act of 1933, as amended, of our report dated February 18, 2016, relating to the consolidated financial statements of Heat Biologics, Inc., which appears in Amendment No. 4 to the Registration Statement on Form S-1 (No. 333-209079) filed on March 15, 2016. 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 Amendment No. 4 to the Registration Statement on Form S-1 (No. 333-209079) incorporated by reference in this Registration Statement.

/s/ BDO USA, LLP

Raleigh, North Carolina
March 18, 2016