

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

FORM S-3
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)*

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

**627 Davis Drive, Suite 400
Morrisville, North Carolina 27560
(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 President
Heat Biologics, Inc.
627 Davis Drive, Suite 400
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(919) 240-7133**

(Name, Address, Including Zip Code, and Telephone Number, Including Area Code of Agent for Service)

With copies to:

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Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

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, other than securities offered only in connection with dividend or interest reinvestment plans, 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.

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 registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 413(b) under the Securities Act, check the following box.

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.

Large accelerated filer
Non-accelerated filer

Accelerated filer
Smaller reporting company
Emerging growth company

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 to Section 7(a)(2)(B) of the Securities Act.

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be registered ⁽¹⁾⁽²⁾	Proposed maximum offering price per share ⁽³⁾	Proposed maximum aggregate offering price	Amount of registration fee
Common Stock, \$0.0002 par value per share issuable upon exercise of warrants ⁽⁴⁾	403,025	\$11.088	\$4,468,742	\$487.54

- (1) Pursuant to Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), this registration statement also covers such additional shares as may hereafter be offered or issued to prevent dilution resulting from stock splits, stock dividends, recapitalizations or certain other capital adjustments.
- (2) Represents shares of common stock underlying warrants issued to investors in the Registrant's previous underwritten follow-on offering that closed on May 7, 2018.
- (3) Represents the per share exercise price of the warrants, which is \$11.088.
- (4) This registration statement also covers the common stock purchase rights issuable in accordance with the rights agreement, dated as of March 11, 2018, as amended by Amendment No. 1 thereto, dated March 8, 2019, Amendment No. 2 thereto, dated March 10, 2020, and Amendment No. 3 thereto, dated March 8, 2021 by and 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.

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 that specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act or until this Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

The Registrant previously filed a registration statement on Form S-1 (File No. 333-224039), which the Securities and Exchange Commission (the "SEC") declared effective on May 2, 2018 (the "Form S-1 Registration Statement"). Pursuant to the Form S-1 Registration Statement and that certain underwriting agreement, dated May 2, 2018, by and between the Registrant and A.G.P./Alliance Global Partners, as representative of the several underwriters listed therein, the Company registered and issued (i) shares of its common stock, par value, \$0.0002 per share, (ii) pre-funded warrants to purchase shares of common stock and (iii) common warrants to purchase shares of common stock (the "May 2018 Warrants"). This Registration Statement on Form S-3 is intended to ensure that an effective registration statement covers all shares of the Registrant's common stock issuable upon exercise of the outstanding and unexercised May 2018 Warrants. As of the date of this prospectus, 403,025 shares of common stock (post-reverse stock split) remain issuable upon the exercise of the May 2018 Warrants. The May 2018 Warrants expire on May 7, 2023.

The information contained in this prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion, Dated June 11, 2021

PROSPECTUS



403,025 Shares of Common Stock Issuable Upon Exercise of Outstanding Warrants

This prospectus relates to the offer and sale by us of 403,025 shares of our common stock, par value \$0.0002 per share, that are issuable at an exercise price of \$11.088 per share (post-reverse stock split) from time to time upon the exercise of outstanding warrants that we issued in May 2018 (the "May 2018 Warrants") as part of a follow-on underwritten public offering that closed on May 7, 2018. We will receive the proceeds from any cash exercises of the outstanding May 2018 Warrants. Each May 2018 Warrant is exercisable at any time until its expiration date, which is May 7, 2023 (the date that is five years from the date on which the May 2018 Warrants were initially issued by us in a firm commitment public offering). No securities are being offered pursuant to this prospectus other than the 403,025 shares of our common stock that will be issued upon exercise of the outstanding May 2018 Warrants.

Our common stock is listed on the Nasdaq Capital Market under the symbol "HTBX." On June 10, 2021, the last reported sale price of our common stock on the Nasdaq Capital Market was \$9.60 per share.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading "[Risk Factors](#)" contained in the applicable prospectus supplement and in any free writing prospectuses we have authorized for use in connection with a specific offering, and under similar headings in the other documents that are incorporated by reference into this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is _____, 2021

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You should rely only on the information we have provided or incorporated by reference in this prospectus or in any prospectus supplement. We have not authorized anyone to provide you with information different from that contained or incorporated by reference in this prospectus or in any prospectus supplement. This prospectus and any prospectus supplement is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. You should assume that the information contained in this prospectus and in any prospectus supplement is accurate only as of their respective dates and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus or any prospective supplement or any sale of securities. The registration statement, including the exhibits and the documents incorporated herein by reference, can be read on the Securities and Exchange Commission website or at the Securities and Exchange Commission offices mentioned under the heading “Where You Can Find More Information.”

ABOUT THIS PROSPECTUS

This prospectus is not an offer or solicitation in respect to these securities in any jurisdiction in which such offer or solicitation would be unlawful. This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission (the “SEC”). The registration statement that contains this prospectus (including the exhibits to the registration statement) contains additional information about our company and the securities offered under this prospectus. That registration statement can be read at the SEC website (www.sec.gov) or our website (www.heatbio.com) as described in more detail under the section of this prospectus entitled “Where You Can Find More Information.” We have not authorized anyone else to provide you with different information or additional information. You should not assume that the information in this prospectus, or any supplement or amendment to this prospectus, is accurate at any date other than the date indicated on the cover page of such documents.

Unless otherwise stated or the context otherwise requires, references in this prospectus to “Heat,” the “Company,” “we,” “our” and “us” refer to Heat Biologics, Inc., a Delaware corporation and its consolidated subsidiaries, unless otherwise specified. When we refer to “you,” we mean the holders of the applicable series of securities.

In addition, information in this prospectus reflects a one-for-seven reverse stock split of our issued and outstanding shares of common stock, options and warrants that was effected on December 11, 2020. The information disclosed in this prospectus regarding common stock prices per share or stock option and warrant exercise prices per share and share numbers has been adjusted to reflect the reverse stock split.

PROSPECTUS SUMMARY

The items in the following summary are described in more detail elsewhere in this prospectus and in the documents incorporated by reference herein. This summary provides an overview of selected information and does not contain all the information you should consider before investing in our securities. Therefore, you should carefully read the entire prospectus, any prospectus supplement and any free writing prospectus that we have authorized for use in connection with this offering, including the "Risk Factors" section and other documents or information included or incorporated by reference in this prospectus, including the more detailed consolidated financial statements, notes to the consolidated financial statements and other information incorporated by reference from our other filings with the SEC, or included in any applicable prospectus supplement, before making any investment decision.

Overview

We are a biopharmaceutical company primarily engaged in the development of immune therapies and vaccines. Our gp96 platform is designed to activate the immune system. This platform has broad applications in cancer and infectious disease. Our platform leverages gp96's role as a natural molecular warning system that presents antigens to the immune system. HS-110 (viagenpumatumucel-L) is our first allogeneic ("off-the-shelf") cell line biologic product candidate in a series of proprietary immunotherapies designed to stimulate a patient's T-cells to destroy cancer. HS-130 is an allogeneic cell line engineered to express the extracellular domain of OX40 ligand fusion protein (OX40L-Fc), a key costimulator of T-cells, with the potential to augment antigen-specific CD4+ T-cell and CD8+ T-cell responses. We have initiated development of a new COVID-19 vaccine program under our Zolovax, Inc. subsidiary that utilizes our gp96 platform to secrete SARS-CoV-2 antigens. Our subsidiary Pelican Therapeutics, Inc. ("Pelican"), is developing PTX-35, a novel T-cell co-stimulator agonist antibody targeting TNFRSF25 for systemic administration.

These programs are designed to harness the body's natural antigen specific immune activation and tolerance mechanisms to reprogram immunity and provide a long-term, durable clinical effect. We have completed recruiting patients in our Phase 2 HS-110 non-small cell lung cancer (NSCLC) trial, dosed twelve patients in our Phase 1 clinical trial of HS-130 and dosed ten patients in our Phase 1 clinical trial of PTX-35. We are also providing pre-clinical, CMC development, and administrative support for these operations; while constantly focusing on protecting and expanding our intellectual property in areas of strategic interest. As we advance our clinical programs, we are in close contact with our CROs and clinical sites and are assessing the impact of COVID-19 on our studies and current timelines and costs.

Summary Risk Factors

The following is a summary of the key risks relating to our Company. You should review carefully the risks and uncertainties more fully described under the heading "Risk Factors" contained in our most recent Annual Report on Form 10-K as may be updated by subsequent annual, quarterly and other reports that are incorporated by reference into this prospectus in their entirety subsequent and this prospectus, the applicable prospectus supplement and in any free writing prospectuses we have authorized for use in connection with a specific offering, and under similar headings in the other documents that are incorporated by reference into this prospectus.

Risks Relating to our Company, Financial Position and Capital Requirements

- We have a limited operating history with which to compare and have incurred significant losses since our inception and expect to incur substantial and increasing losses for the foreseeable future.
- The funding required to support our current and future operations may not be available to us on acceptable terms, or at all.
- Coronavirus and other global health crises could adversely impact our business, including our operations and/or clinical trials.
- We currently have no product revenues and may not generate revenue at any time in the near future, if at all.
- We have no products approved for commercial sale and our product candidates may never attain regulatory approval for commercial sale.
- We are substantially dependent on the success of our product candidates, only three of which are currently being tested in clinical trials, and we cannot provide any assurance that any of our product candidates will be commercialized.

Risks Related to Our Clinical Development, Regulatory Approval and Commercialization

- We have limited experience as a company conducting clinical trials, and may experience delays in our clinical trials which would delay our receipt of the necessary regulatory approval for our product candidate.
- If we do not obtain the necessary regulatory approvals in the United States and/or other countries, we will not be able to sell our product candidates.
- We must obtain and maintain regulatory approvals in every jurisdiction in which we intend to sell our product candidate and the regulatory approval in one jurisdiction does not guarantee the approval in another jurisdiction.
- Our product candidates and our COVID-19 vaccine program are in the early stages of development and each will require extensive testing and funding in the future.
- Clinical trials are very expensive, time-consuming, and difficult to design and implement.
- Misidentification of cell lines could impact our clinical development and intellectual property rights.

- There is uncertainty as to market acceptance of our technology and product candidates.
- We currently rely upon our gp96 platform for development of many of our product candidates, which if unsuccessful may impact the success of several of our product candidates.
- We rely on our employees and third parties for our development program, to primarily manufacture our product candidates and conduct or supervise our clinical trials any or all of whom may engage in misconduct or other improper activities that could harm our business, reputation or make us non-compliant with regulatory requirements.
- We may be exposed to liability claims, including, but not limited to those associated with the use of biological and hazardous materials and chemicals.
- For our ongoing clinical trial of HS-110, we are administering our product candidates, in combination with other immunotherapy agents and any problems obtaining the other immunotherapy agents could result in a delay or interruption in our clinical trials.
- We may not be able to compete successfully for market share against other drug companies.
- We face strong competition and other risks in our COVID19 vaccine program.
- International expansion of our business exposes us to business, regulatory, political, operational, financial and economic risks associated with doing business outside of the United States.
- Uncertainty regarding health care reform and declining general economic or business conditions may have a negative impact on our business.
- The U.S. government may have “march-in rights” to certain of our intellectual property.
- Reliance on government funding for Pelican’s programs may impose requirements that limit Pelican’s ability to take certain actions, and subject it to potential financial penalties.
- We rely extensively on our information technology systems and are vulnerable to damage and interruption and any failure to maintain the security of information relating to our customers, employees and suppliers, whether as a result of cybersecurity attacks or otherwise, could expose us to litigation, government enforcement actions and costly response measures, and could disrupt our operations and harm our reputation.

Intellectual Property Risk Factors

- We have limited protection for our intellectual property, which could impact our competitive position.
- The technology we license, our products or our development efforts may be found to infringe upon third-party intellectual property rights.
- We rely on a license to use various technologies that are material to our business and there is no guarantee that such license agreements won’t be terminated, or that other rights necessary to commercialize our products will be available to us on acceptable terms or at all.
- We may be unable to generate sufficient revenues to meet the minimum annual payments or developmental milestones required under our license agreements.

General Risk Factors

- We rely on key executive officers and scientific, regulatory and medical advisors, and their knowledge of our business and technical expertise would be difficult to replace.
- Our failure to meet the continued listing requirements of The Nasdaq Capital Market could result in a de-listing of our common stock.
- Our shares of common stock are from time to time thinly traded, so stockholders may be unable to sell at or near ask prices or at all if they need to sell shares to raise money or otherwise desire to liquidate their shares.
- Our stock price has fluctuated in the past, has recently been volatile and may be volatile in the future, and as a result, investors in our common stock could incur substantial losses.
- Our need for future financing may result in the issuance of additional securities that will cause investors to experience dilution.

Risks Related to this Offering

- Resales of our common stock in the public market by our stockholders may cause the market price of our common stock to fall.
- There may be future sales or other dilution of our equity, which may adversely affect the market price of our common stock.
- Our management will have broad discretion over the use of the net proceeds from this offering and you may not agree with how we use the proceeds and the proceeds may not be invested successfully.
- If the holders of the May 2018 Warrants exercise the May 2018 Warrants, they will experience immediate and substantial dilution in the book value per share of the common stock they hold.

General Corporate Information

We were incorporated under the laws of the State of Delaware on June 10, 2008. Our principal offices are located at 627 Davis Drive, Suite 400, Morrisville, North Carolina. Our website address is www.heatbio.com. We make our periodic and current reports that are filed with the SEC available, free of charge, on our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. The information contained in, and that can be accessed through, our website is not incorporated into and is not a part of this prospectus.

Reverse Stock Split

On December 10, 2020, we announced a reverse stock split (the “reverse stock split”) of our shares of common stock at a ratio of 1-for-7. The reverse stock split took effect as of 12:01 a.m. ET on December 11, 2020, to trade on a post-split basis at the market open on December 11, 2020. During our annual shareholder meeting held February 27, 2020, shareholders approved the reverse stock split, and granted the board of directors the authority to implement and determine the exact split ratio. When the reverse stock split became effective, every seven (7) shares of our issued and outstanding common stock were combined into one (1) share of common stock. Effecting the reverse stock split reduced the number of issued and outstanding common stock from approximately 159.8 million shares to approximately 22.8 million.

Information in this prospectus reflects the one-for-seven reverse stock split of our issued and outstanding shares of common stock, options and warrants that was effected on December 11, 2020. The information disclosed in this prospectus regarding common stock prices per share or stock option and warrant exercise prices per share and share numbers has been adjusted to reflect the reverse stock split.

Transactions with Holders of May 2018 Warrants

May 2018 Public Offering

On May 7, 2018, we consummated a firm commitment underwritten public offering (the “May 2018 Offering”) of an aggregate of 4,875,000 shares of common stock (696,429 post-reverse stock split), together with pre-funded warrants to purchase up to 9,500,000 shares of common stock (1,357,142 post-reverse stock split) and common warrants (the May 2018 Warrants) to purchase up to 7,187,500 shares of our common stock (1,026,785 post-reverse stock split). A.G.P./Alliance Global Partners acted as the sole book-running manager for the offering and CIM Securities, LLC acted as a Co-Manager for the offering.

As of the date of this prospectus, 403,025 shares of common stock (post-reverse stock split) remain issuable upon the exercise of the May 2018 Warrants. The May 2018 Warrants expire on May 7, 2023.

As of the date of this prospectus, the May 2018 Warrants are exercisable to purchase shares of common stock at \$11.088 per share (post-reverse stock split). The exercise price and the number of shares of common stock purchasable upon the exercise of each May 2018 Warrant are subject to adjustment upon the happening of certain events, such as stock dividends, distributions, and splits.

THE OFFERING

Common stock offered by us pursuant to this prospectus 403,025 shares of common (post-reverse stock split) issuable upon exercise of the May 2018 Warrants, which warrants are exercisable until May 7, 2023 (the fifth anniversary of the original issuance date of the May 2018 Warrants) at an exercise price of \$11.088 per share (post-reverse stock split).

Common stock to be outstanding after this offering if all of the May 2018 Warrants are exercised 25,800,309 shares ⁽¹⁾

Use of proceeds

We intend to use the net proceeds of this offering to fund our clinical trials and for working capital and general corporate purposes as well as to acquire, license or invest in businesses, technologies, product candidates or other intellectual property and to fund our milestone payment obligations. See "[Use of Proceeds](#)" for further information.

The net proceeds from any disposition of the shares of common stock covered hereby would be received by the investors selling such shares. We will not receive any of the proceeds from any such sale of the common stock offered by this prospectus other than the net proceeds of any May 2018 Warrants exercised for cash.

Risk factors

See "[Risk Factors](#)" beginning on page 5 of this prospectus and the other information included in, or incorporated by reference into, this prospectus for a discussion of certain factors you should carefully consider before deciding to invest in shares of our common stock.

Nasdaq Capital Market Symbol

"HTBX"

(1) Includes 25,397,284 shares of our common stock outstanding on June 10, 2021.

RISK FACTORS

Investing in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the risks and uncertainties described below and any related free writing prospectus, and discussed under the section entitled “Risk Factors” contained in our most recent Annual Report on Form 10-K, as may be updated by subsequent annual, quarterly and other reports that are incorporated by reference into this prospectus in their entirety. The risks described in these documents are not the only ones we face, but those that we consider to be material. There may be other unknown or unpredictable economic, business, competitive, regulatory or other factors that could have material adverse effects on our future results. Past financial performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment. Please also read carefully the section below entitled “Forward-Looking Statements.”

Risks Related to this Offering

Resales of our common stock in the public market by our stockholders may cause the market price of our common stock to fall.

We may issue common stock from time to time, including in connection with the exercise of the May 2018 Warrants. The issuance from time to time of these new shares of our common stock, or our ability to issue new shares of common stock from time to time, could result in resales of our common stock by our current stockholders concerned about the potential dilution of their holdings. In turn, these resales could have the effect of depressing the market price for our common stock.

There may be future sales or other dilution of our equity, which may adversely affect the market price of our common stock.

We are generally not restricted from issuing additional common stock, including any securities that are convertible into or exchangeable for, or that represent the right to receive, common stock. The market price of our common stock could decline as a result of sales of common stock or securities that are convertible into or exchangeable for, or that represent the right to receive, common stock after this offering or the perception that such sales could occur.

Our management will have broad discretion over the use of the net proceeds from this offering and you may not agree with how we use the proceeds and the proceeds may not be invested successfully.

We have not designated any portion of the net proceeds from this offering to be used for any particular purpose. Accordingly, our management will have broad discretion as to the use of the net proceeds from this offering and could use them for purposes other than those contemplated at the time of the commencement of the offering of the May 2018 Warrants and as of the date of this prospectus. Accordingly, you will be relying on the judgment of our management with regard to the use of these net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. It is possible that, pending their use, we may invest the net proceeds in a way that does not yield a favorable, or any, return for our company.

If the holders of the May 2018 Warrants exercise the May 2018 Warrants, they will experience immediate and substantial dilution in the book value per share of the common stock they hold.

This offering involves the offer and sale by us of up to 403,025 shares of our common stock that are currently issuable upon the exercise of the May 2018 Warrants. The exercise price of the May 2018 Warrants at the time of exercise may be substantially higher than the book value per share of our common stock, and the holders of the May 2018 Warrant may suffer immediate and substantial dilution in the net tangible book value of the common stock acquired upon exercise of May 2018 Warrants. The exercise of outstanding stock options and other outstanding warrants may result in further dilution of your investment. See “Dilution” for a more detailed discussion of the dilution you may incur in connection with this offering.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the documents that we incorporate by reference herein, contains, and any applicable prospectus supplement or free writing prospectus including the documents we incorporate by reference therein may contain, forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, including statements regarding our future financial condition, business strategy and plans and objectives of management for future operations. Forward-looking statements include all statements that are not historical facts. In some cases, you can identify forward-looking statements by terminology such as “believe,” “will,” “may,” “estimate,” “continue,” “anticipate,” “intend,” “should,” “plan,” “might,” “approximately,” “expect,” “predict,” “could,” “potentially” or the negative of these terms or other similar expressions. Forward-looking statements appear in a number of places throughout this prospectus and include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things, our ongoing and planned preclinical development and clinical trials, the timing of and our ability to make regulatory filings and obtain and maintain regulatory approvals for our product candidates, our intellectual property position, the degree of clinical utility of our product candidates, our ability to develop commercial functions, expectations regarding clinical trial data, our results of operations, cash needs, spending of the proceeds from any offering, financial condition, liquidity, prospects, growth and strategies, the industry in which we operate and the trends that may affect the industry or us.

Discussions containing these forward-looking statements may be found, among other places, in the sections entitled “Business,” “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” contained in the documents incorporated by reference herein, including our most recent Annual Report on Form 10-K and our Quarterly Reports on Form 10-Q, as well as any amendments thereto.

These statements relate to future events or our future financial performance and involve known and unknown risks, uncertainties and other factors that could cause our actual results, levels of activity, performance or achievement to differ materially from those expressed or implied by these forward-looking statements. We discuss in greater detail, and incorporate by reference into this prospectus in their entirety, many of these risks and uncertainties under the heading “Risk Factors” contained in the applicable prospectus supplement, in any free writing prospectus we may authorize for use in connection with a specific offering, and in the documents incorporated by reference herein. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. We undertake no obligation to revise or publicly release the results of any revision to these forward-looking statements, except as required by law. Given these risks and uncertainties, readers are cautioned not to place undue reliance on such forward-looking statements. All forward-looking statements are qualified in their entirety by this cautionary statement.

USE OF PROCEEDS

If all of the outstanding May 2018 Warrants are exercised for 403,025 shares of or common stock, we estimate that the net proceeds of this offering to us will be approximately \$4.4 million.

The net proceeds from any disposition of the shares of common stock covered by this prospectus and the registration statement would be received by the investors selling such shares. We will not receive any of the proceeds from any such sale of the common stock offered by this prospectus other than the net proceeds of any May 2018 Warrants exercised for cash.

We intend to use the net proceeds of this offering to continue to fund our clinical trials and for working capital and general corporate purposes as well as to acquire, license or invest in businesses, technologies, product candidates or other intellectual property and to fund our milestone payment obligations.

The amounts and timing of our actual expenditures will depend on numerous factors, including our development and commercialization efforts, as well as the amount of cash used in our operations. We therefore cannot estimate with certainty the amount of net proceeds to be used for the purposes described above. We may find it necessary or advisable to use the net proceeds for other purposes, and we will have broad discretion in the application of the net proceeds. Pending the uses described above, we plan to invest the net proceeds from this offering in short-term, investment-grade, interest-bearing securities.

DILUTION

If you exercise your warrant and purchase shares of our common stock in this offering, you will experience dilution to the extent of the difference between the offering price per share and the as adjusted net tangible book value per share after giving effect to this offering.

As of March 31, 2021, our net tangible book value was approximately \$129.1 million, or approximately \$5.08 per share. "Net tangible book value" is total assets minus the sum of liabilities and intangible assets. "Net tangible book value per share" is net tangible book value divided by the total number of shares outstanding.

After giving effect to the issuance of the common stock to investors exercising the May 2018 Warrants for cash at \$11.088 per share (post-reverse stock split), our as adjusted net tangible book value as of March 31, 2021 would have been approximately \$133.6 million or \$5.18 per share of common stock. This represents an immediate increase in net tangible book value of \$0.10 per share to our existing stockholders and an immediate dilution in net tangible book value of \$5.908 per share to investors exercising the May 2018 Warrants at a price of \$11.088 per share (post-reverse stock split), which is the exercise price of the outstanding May 2018 Warrants.

Exercise price per share		\$ 11.088
Net tangible book value per share as of March 31, 2021	\$ 5.08	
Increase in net tangible book value per share attributable to existing investors	\$ 0.10	
As adjusted net tangible book value per share after giving effect to this offering		\$ 5.18
Dilution per share to new investors		\$ 5.908

The foregoing discussion and table do not take into account further dilution to new investors that could occur upon the exercise of outstanding options or other warrants. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

DIVIDEND POLICY

We have never paid cash dividends on our common stock. Moreover, we do not anticipate paying periodic cash dividends on our common stock for the foreseeable future. We intend to use all available cash and liquid assets in the operation and growth of our business. Any future determination about the payment of dividends will be made at the discretion of our Board of Directors and will depend upon our earnings, if any, capital requirements, operating and financial conditions and on such other factors as our Board of Directors deems relevant.

DESCRIPTION OF OUR CAPITAL STOCK

General

The following is a summary of the rights of our common stock, preferred stock and outstanding warrants and related provisions of our certificate of incorporation, bylaws and warrants. For more detailed information, please see our certificate of incorporation and bylaws, each as amended.

We are authorized to issue 250,000,000 shares of common stock, par value \$0.0002 per share, of which 25,397,284 shares are outstanding as of June 10, 2021, and 10,000,000 shares of preferred stock, par value \$0.0001 per share, of which an aggregate of 8,212,500 shares have been designated as follows: 112,500 shares are designated Series 1 Preferred Stock, 2,000,000 shares are designated Series A Preferred Stock, 4,100,000 are designated as Series B-1 Preferred Stock and 2,000,000 are designated Series B-2 Preferred Stock. There are currently no shares of preferred stock outstanding.

Common Stock

Voting. The holders of our common stock are entitled to one vote for each share held of record on all matters submitted to a vote of the stockholders, including the election of directors, and do not have cumulative voting rights.

Dividends. Subject to preferences that may be applicable to any then outstanding preferred stock, the holders of common stock are entitled to receive dividends, if any, as may be declared from time to time by our Board of Directors out of legally available funds.

Liquidation. In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities, subject to the satisfaction of any liquidation preference granted to the holders of any then outstanding shares of preferred stock.

Rights and Preferences. The holders of our common stock have no preemptive, conversion or subscription rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock that we may designate and issue in the future.

Fully Paid and Nonassessable. All of our outstanding shares of common stock are, and the shares of common stock to be issued under this prospectus will be, fully paid and nonassessable.

Preferred Stock

The following description of our preferred stock will apply generally to any future preferred stock that we may offer, but is not complete. We will describe the particular terms of any class or series of these securities in more detail in the applicable prospectus supplement.

We are authorized to issue 10,000,000 shares of Preferred Stock, par value \$0.0001 per share, of which an aggregate of 8,212,500 shares have been designated as follows: 112,500 shares have been designated Series 1 Preferred Stock, 2,000,000 shares have been designated Series A Preferred Stock, 4,100,000 have been designated as Series B-1 Preferred Stock and 2,000,000 have been designated Series B-2 Preferred Stock. No shares of preferred stock are outstanding. Any authorized and undesignated shares of preferred stock may be issued from time to time in one or more series pursuant to a resolution or resolutions providing for such issue duly adopted by our Board of Directors and upon stockholder approval.

Under our Third Amended and Restated Certificate of Incorporation, as amended, our Board of Directors must seek stockholder approval before issuing any shares of preferred stock in order to determine the designations and the powers, preferences and rights, and the qualifications, limitations and restrictions thereof, including the dividend rights, conversion or exchange rights, voting rights, redemption rights and terms, liquidation preferences, sinking fund provisions and the number of shares constituting the series. Our Board of Directors can, only with stockholder approval, but subject to the terms of the Third Amended and Restated Certificate of Incorporation, as amended, issue preferred stock with voting and other rights that could adversely affect the voting power of the holders of our common stock and which could have certain anti-takeover effects. Before we may issue any series of preferred stock, our Board of Directors will be required to adopt resolutions creating and designating such series of preferred stock.

The issuance of preferred stock could adversely affect the voting power of holders of common stock and reduce the likelihood that common stockholders will receive dividend payments and payments upon liquidation. The issuance could have the effect of decreasing the market price of the common stock. The issuance of preferred stock also could have the effect of delaying, deterring or preventing a change in control of us.

Options

As of June 10, 2021, awards for 1,947,473 shares of common stock were outstanding under our equity compensation plans comprised of: (i) options outstanding to purchase an aggregate of 1,687,599 shares of common stock, and (ii) restricted stock units outstanding underlying 259,874 shares of common stock. As of June 10, 2021, 1,085,085 shares of common stock were reserved for future issuance under our equity incentive plans.

Stockholder Rights Plan

On March 11, 2018, our board of directors declared a dividend of one Right for each outstanding share of our common stock, which was amended by Amendment No. 1 thereto dated March 8, 2019, Amendment No. 2 thereto dated March 10, 2020 and Amendment No. 3 thereto dated March 8, 2021 to, among other things, extend the expiration date of the stockholder's rights plan to March 11, 2022. The dividend was initially paid on March 23, 2018 (the "Record Date") to the stockholders of record at the close of business on that date. Each Right initially entitles the registered holder to purchase from us one share of common stock at a price set forth therein (the "Purchase Price"), subject to adjustment. The description and terms of the Rights are set forth in a Rights Agreement, dated as of March 11, 2018, as amended by Amendment No. 1 thereto dated March 8, 2019, Amendment No. 2 thereto dated March 10, 2020, and Amendment No. 3 thereto dated March 8, 2021, as the same may be further amended from time to time (the "Rights Agreement"), between the Company and Continental Stock Transfer & Trust Company, as Rights Agent (the "Rights Agent").

The Rights are designed to assure that all of our stockholders receive fair and equal treatment in the event of a hostile takeover of the Company, to guard against two-tier or partial tender offers, open market accumulations and other tactics designed to gain control of the Company without paying all stockholders a fair price, and to enhance the board of director's ability to negotiate with any prospective acquiror. Until the earlier to occur of (i) 10 business days following a public announcement that a person or group of affiliated or associated persons has become an Acquiring Person (as defined below) or (ii) 10 business days (or such later date as may be determined by action of the board of directors prior to such time as any person or group of affiliated or associated persons becomes an Acquiring Person) following the commencement of, or public announcement of an intention to make, a tender or exchange offer the consummation of which would result in any person or group of affiliated or associated persons becoming an Acquiring Person (the earlier of such dates being called the "Distribution Date"), the Rights will be evidenced, with respect to certificates representing common stock (or book entry shares of common stock) outstanding as of the Record Date, by such certificates (or such book entry shares) together with a copy of a summary of the Rights (the "Summary of Rights"). Except in certain situations, a person or group of affiliated or associated persons becomes an "Acquiring Person" upon acquiring beneficial ownership of 20% or more of the outstanding shares of common stock. Certain synthetic interests in securities created by derivative positions – whether or not such interests are considered to be ownership of the underlying common stock or are reportable for purposes of Regulation 13D of the Exchange Act – are treated as beneficial ownership of the number of shares of the common stock equivalent to the economic exposure created by the derivative security, to the extent actual shares of common stock are directly or indirectly beneficially owned by a counterparty to such derivative security.

The Rights Agreement provides that, until the Distribution Date (or earlier expiration of the Rights), the Rights will be transferred with and only with the common stock. Until the Distribution Date (or earlier expiration of the Rights), new common stock certificates issued after the Record Date upon transfer or new issuances of common stock will contain a notation incorporating the Rights Agreement by reference. Until the Distribution Date (or earlier expiration of the Rights), the surrender for transfer of any certificates for shares of common stock (or book entry shares of common stock) outstanding as of the Record Date, even without such notation or a copy of the Summary of Rights, will also constitute the transfer of the Rights associated with the shares of common stock represented thereby. As soon as practicable following the Distribution Date, separate certificates evidencing the Rights ("Right Certificates") will be mailed to holders of record of the common stock as of the close of business on the Distribution Date and such separate Right Certificates alone will evidence the Rights. The Rights are not exercisable until the Distribution Date. The Rights will expire at the close of business on March 11, 2022, unless the Rights are earlier redeemed or exchanged by the Company as described below.

The Purchase Price payable, and the number of shares of common stock (or cash, other assets, debt securities of the Company, or any combination thereof equivalent in value thereto) issuable, upon exercise of the Rights is subject to adjustment from time to time to prevent dilution (i) in the event of a stock dividend on, or a subdivision, combination or reclassification of, the common stock, (ii) upon the grant to holders of the common stock of certain rights or warrants to subscribe for or purchase common stock at a price, or securities convertible into common stock with a conversion price, less than the then-current market price of the common stock or (iii) upon the distribution to holders of the common stock of evidences of indebtedness or assets (excluding regular periodic cash dividends or dividends payable in common stock) or of subscription rights or warrants (other than those referred to above).

The number of outstanding Rights is subject to adjustment in the event of a stock dividend on the common stock payable in shares of common stock or subdivisions, consolidations or combinations of the common stock occurring, in any such case, prior to the Distribution Date.

In the event that any person or group of affiliated or associated persons becomes an Acquiring Person, each holder of a Right, other than Rights beneficially owned by the Acquiring Person (which will thereupon become void), will thereafter have the right to receive upon exercise of a Right that number of shares of common stock (or cash, property debt securities of the Company, or any combination thereof) having a market value of two times the exercise price of the Right.

In the event that, after a person or group has become an Acquiring Person, the Company is acquired in a merger or other business combination transaction or 50% or more of its consolidated assets or earning power are sold, proper provisions will be made so that each holder of a Right (other than Rights beneficially owned by an Acquiring Person which will have become void) will thereafter have the right to receive upon the exercise of a Right that number of shares of common stock of the person with whom the Company has engaged in the foregoing transaction (or its parent) that at the time of such transaction have a market value of two times the exercise price of the Right.

At any time after any person or group becomes an Acquiring Person and prior to the earlier of one of the events described in the previous paragraph or the acquisition by such Acquiring Person of 50% or more of the outstanding shares of common stock, the board of directors may exchange the Rights (other than Rights owned by such Acquiring Person which will have become void), in whole or in part, for shares of common stock (or cash, other assets, debt securities of the Company, or any combination thereof with an aggregate value equal to such shares) at an exchange ratio of one share of common stock (or cash, other assets, debt securities of the Company, or any combination thereof equivalent in value thereto) per Right.

With certain exceptions, no adjustment in the Purchase Price will be required until cumulative adjustments require an adjustment of at least 1% in such Purchase Price. No fractional shares of common stock will be issued, and in lieu thereof a cash payment will be made based on then current market price of the common stock.

At any time prior to the time an Acquiring Person becomes such, the Board may redeem the Rights in whole, but not in part, at a price of \$0.001 per Right (the "Redemption Price") payable, at the option of the Company, in cash, shares of common stock or such other form of consideration as the board of directors shall determine. The redemption of the Rights may be made effective at such time, on such basis and with such conditions as the board of directors in its sole discretion may establish. Immediately upon any redemption of the Rights, the right to exercise the Rights will terminate and the only right of the holders of Rights will be to receive the Redemption Price.

For so long as the Rights are then redeemable, the Company may, except with respect to the Redemption Price, amend the Rights Agreement in any manner. After the Rights are no longer redeemable, the Company may, except with respect to the Redemption Price, amend the Rights Agreement in any manner that does not adversely affect the interests of holders of the Rights.

Until a Right is exercised or exchanged, the holder thereof, as such, will have no rights as a stockholder of the Company, including, without limitation, the right to vote or to receive dividends. For more detailed information, please see the Rights Agreement.

Potential Anti-Takeover Effects

Certain provisions set forth in our Third Amended and Restated Certificate of Incorporation, as amended, in our amended and restated bylaws, our stockholder rights plan and in Delaware law, which are summarized below, may be deemed to have an anti-takeover effect and may delay, deter or prevent a tender offer or takeover attempt that a stockholder might consider to be in its best interests, including attempts that might result in a premium being paid over the market price for the shares held by stockholders.

Proposals of business and nominations. Our bylaws generally regulate proposals of business and nominations for election of directors by stockholders. In general, Section 2.14 requires stockholders intending to submit proposals or nominations at a stockholders meeting to provide the Company with advance notice thereof, including information regarding the stockholder proposing the business or nomination as well as information regarding the proposed business or nominee. Section 2.14 provides a time period during which business or nominations must be provided to the Company that will create a predictable window for the submission of such notices, eliminating the risk that the Company finds a meeting will be contested after printing its proxy materials for an uncontested election and providing the Company with a reasonable opportunity to respond to nominations and proposals by stockholders.

Board Vacancies. Our bylaws generally provide that only the Board of Directors (and not the stockholders) may fill vacancies and newly created directorships.

Special Meeting of Stockholders. Our bylaws generally provide that only the Board of Directors (and no other third party) may call a special meeting of stockholders and that the Board of Directors may postpone, reschedule or cancel any special meeting of stockholders that was previously scheduled by the Board of Directors.

Stockholder Rights Plan. The rights issued pursuant to our stockholder rights plan, if not redeemed or suspended, could work to dilute the stock ownership of a potential hostile acquirer, likely preventing acquisitions that have not been approved by our Board of Directors.

While the foregoing provisions of our Third Amended and Restated Certificate of Incorporation, as amended, in our amended and restated bylaws and Delaware law may have an anti-takeover effect, these provisions are intended to enhance the likelihood of continuity and stability in the composition of the Board of Directors and in the policies formulated by the Board of Directors and to discourage certain types of transactions that may involve an actual or threatened change of control. In that regard, these provisions are designed to reduce our vulnerability to an unsolicited acquisition proposal. The provisions also are intended to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and, as a consequence, they also may inhibit fluctuations in the market price of our common stock that could result from actual or rumored takeover attempts. Such provisions also may have the effect of preventing changes in our management.

Exclusive forum for adjudication of disputes provision which limits the forum to the Delaware Court of Chancery for certain actions against the Company.

Our amended and restated bylaws provide that, unless we consent to the selection of an alternative forum, the Court of Chancery of the State of Delaware is the exclusive forum for (i) any derivative action or proceeding brought on behalf of us, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, or other employees to us or our stockholders, (iii) any action arising pursuant to any provision of the DGCL or our certificate of incorporation or bylaws (as either may be amended from time to time), or (iv) any action asserting a claim governed by the internal affairs doctrine, except, in each case for claims arising under the Securities Act of 1933, as amended, the Exchange Act, or other federal securities laws for which there is exclusive federal or concurrent federal and state jurisdiction.

We believe limiting state law based claims to Delaware will provide the most appropriate outcomes as the risk of another forum misapplying Delaware law is avoided, Delaware courts have a well-developed body of case law and limiting the forum will preclude costly and duplicative litigation and avoids the risk of inconsistent outcomes. Additionally, Delaware Chancery Courts can typically resolve disputes on an accelerated schedule when compared to other forums. While we believe limiting the forum for state law based claims is a benefit, shareholders could be inconvenienced by not being able to bring certain actions in another forum they find favorable.

Delaware Takeover Statute

In general, Section 203 of the Delaware General Corporation Law prohibits a Delaware corporation that is a public company from engaging in any “business combination” (as defined below) with any “interested stockholder” (defined generally as an entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with such entity or person) for a period of three years following the date that such stockholder became an interested stockholder, unless: (1) prior to such date, the Board of Directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder; (2) on consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding those shares owned (x) by persons who are directors and also officers and (y) by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or (3) on or subsequent to such date, the business combination is approved by the Board of Directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least two-thirds of the outstanding voting stock that is not owned by the interested stockholder.

Section 203 of the Delaware General Corporation Law defines “business combination” to include: (1) any merger or consolidation involving the corporation and the interested stockholder; (2) any sale, transfer, pledge or other disposition of ten percent or more of the assets of the corporation involving the interested stockholder; (3) subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder; (4) any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; or (5) the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

Listing of Common Stock

Our common stock is currently listed on the Nasdaq Capital Market under the trading symbol “HTBX.”

Transfer Agent

The transfer agent and registrar for our common stock is Continental Stock Transfer & Trust Company. They are located at 1 State Street, 30th Floor, New York, New York 10004. Their telephone number is (212) 509-4000.

DESCRIPTION OF WARRANTS

Warrants

As of June 10, 2021, we had warrants outstanding to purchase an aggregate of 747,383 shares of our common stock that have a weighted average exercise price of \$11.06 and expire between May 7, 2023 and November 26, 2023.

May 2018 Public Offering; May 2018 Warrants

On May 7, 2018, we consummated the May 2081 Offering, a firm commitment underwritten public offering of an aggregate of 4,875,000 shares of common stock (696,429 post-reverse stock split), together with pre-funded warrants to purchase up to 9,500,000 shares of common stock (1,357,142 post-reverse stock split) and common warrants (the May 2018 Warrants) to purchase 7,187,500 shares of our common stock (1,026,785 post-reverse stock split).

As of the date of this prospectus, 403,025 shares of common (post-reverse stock split) remain issuable upon the exercise of the May 2018 Warrants. The May 2018 Warrants expire on May 7, 2023.

As of the date of this prospectus, the May 2018 Warrants were exercisable to purchase shares of common stock at \$11.088 per share (post-reverse stock split). The exercise price and the number of shares of common stock purchasable upon the exercise of each May 2018 Warrant are subject to adjustment upon the happening of certain events, such as stock dividends, distributions, and splits. For example, the exercise price (\$11.088 per share (post-reverse stock split)) and the number of shares of common stock purchasable upon the exercise of each May 2018 Warrants were adjusted to reflect the one-for-seven reverse stock split of our issued and outstanding shares of common stock that was effected on December 11, 2020.

The May 2018 Warrants are exercisable at any time until their expiration on May 7, 2023, which is the fifth anniversary of the original issuance date, subject to our call option described below. The May 2018 Warrants are exercisable, at the option of each holder, in whole or in part by delivering to us a duly executed exercise notice and by payment in full in immediately available funds for the number of shares of common stock purchased upon such exercise. If at the time of exercise, there is no effective registration statement registering, or no current prospectus available for, the issuance of the shares of common stock to the holder, then the May 2018 Warrant may only be exercised through a cashless exercise, in which case the holder would receive upon such exercise the net number of shares of common stock determined according to the formula set forth in the May 2018 Warrant. No fractional shares of common stock will be issued in connection with the exercise of a May 2018 Warrant. In lieu of fractional shares, we will pay the holder an amount in cash equal to the fractional amount multiplied by the fair market value of any such fractional shares.

Under the May 2018 Warrants, we may not effect the exercise of any May 2018 Warrant, and a holder will not be entitled to exercise any portion of any May 2018 Warrant, which, upon giving effect to such exercise, would cause (i) the aggregate number of shares of our common stock beneficially owned by the holder (together with its affiliates) to exceed 4.99%/9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, or (ii) the combined voting power of our securities beneficially owned by the holder (together with its affiliates) to exceed 4.99%/9.99% of the combined voting power of all of our securities then outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the May 2018 Warrants. However, any holder may increase or decrease such percentage to any other percentage not in excess of 9.99% upon at least 61 days' prior notice from the holder to us.

If there is a registration statement that covers the resale of the shares underlying the May 2018 Warrants or all of such shares may be sold pursuant to Rule 144 upon cashless exercise without restrictions, including volume restrictions, we have the option to "call" the exercise of any or all of the May 2018 Warrants, from time to time by giving a call notice to the holder only after any 10-consecutive trading day period during which the daily VWAP of the common stock is not less than 300% of the exercise price for the May 2018 Warrants in effect for such 10-consecutive trading day period. During the call period, the holder may exercise the May 2018 Warrants and purchase the called common stock underlying the May 2018 Warrants. If the holder fails to timely exercise the May 2018 Warrants or a number of shares of common stock equal to number of called shares of common stock during the call period, our sole remedy will be to cancel an amount of called shares of common stock underlying the May 2018 Warrants equal to such shortfall, with the May 2018 Warrants no longer being exercisable with respect to such shares of common stock. The call period is a period of 30 trading days following the date on which the call notice is deemed given and effective.

Subject to applicable laws, the May 2018 Warrants may be offered for sale, sold, transferred, or assigned without our consent.

The May 2018 Warrants are not listed on the Nasdaq Capital Market or any other national securities exchange and we do not plan on applying to list the May 2018 Warrants on the Nasdaq Capital Market, any other national securities exchange or any other nationally recognized trading system.

In the event of a fundamental transaction, as described in the May 2018 Warrants and generally including any reorganization, recapitalization or reclassification of our common stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, our consolidation or merger with or into another person, the acquisition of more than 50% of our outstanding common stock, or any person or group becoming the beneficial owner of 50% of the voting power represented by our outstanding common stock, the holders of the May 2018 Warrants will be entitled to receive upon exercise of the May 2018 Warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the May 2018 Warrants immediately prior to such fundamental transaction without regard to any limitations on exercise contained in the May 2018 Warrants. In the event of a fundamental transaction, we are required to cause any successor entity to assume all of our obligations under the May 2018 Warrants.

Except by virtue of such holder's ownership of shares of our common stock, the holder of a May 2018 Warrant does not have the rights or privileges of a holder of our common stock, including any voting rights, until the holder exercises the May 2018 Warrants.

PLAN OF DISTRIBUTION

The common stock referenced on the cover page of this prospectus will be offered solely by us and will be issued and sold upon the exercise of the outstanding May 2018 Warrants that were issued by us in the May 2018 Offering. We will deliver shares of our common stock upon exercise of the May 2018 Warrants; however, no fractional shares will be issued. The May 2018 Warrants are exercisable for a total of 403,025 shares of our common stock (subject to adjustment), and no more of these May 2018 Warrants will be issued by us. Each of these May 2018 Warrants contains instructions for exercise. In order to exercise any of these May 2018 Warrants, the holder must deliver to us and our warrant agent (who is also our transfer agent) the information required in the May 2018 Warrants, along with payment for the exercise price of the shares of common stock to be purchased. If, however, we are unable to offer and sell the shares underlying the May 2018 Warrants pursuant to this prospectus due to the ineffectiveness of the registration statement of which this prospectus is a part, then the May 2018 Warrants may be exercised on a “net” or “cashless” basis.

LEGAL MATTERS

The validity of the issuance of the shares of common stock offered hereby has been passed upon for us by Gracin & Marlow, LLP, New York, New York.

As of the date of this prospectus, an attorney of Gracin & Marlow, LLP beneficially owns shares of common stock and securities exercisable to purchase shares of our common stock that represent less than 1% of our outstanding shares of common stock.

EXPERTS

The consolidated financial statements as of December 31, 2020 and 2019, and for the years then ended, incorporated by reference in this prospectus and the registration statement have been so incorporated in reliance on the report of BDO USA, LLP, an independent registered public accounting firm, incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement we filed with the SEC. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the securities we are offering under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. Neither we nor any agent, underwriter or dealer has authorized any person to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus is accurate as of any date other than the date on the front page of this prospectus, regardless of the time of delivery of this prospectus or any sale of the securities offered by this prospectus.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public at the SEC's website at www.sec.gov. Additional information about Heat Biologics, Inc. is contained at our website, www.heatbio.com. Information on our website is not incorporated by reference into this prospectus. We make available on our website our SEC filings as soon as reasonably practicable after those reports are filed with the SEC. The following Corporate Governance documents are also posted on our website: Code of Ethics and the Charters for the Audit Committee, Compensation Committee and Nominating and Governance Committee of the Board of Directors.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The SEC file number for the documents incorporated by reference in this prospectus is 001-35994. The documents incorporated by reference into this prospectus contain important information that you should read about us.

The following documents are incorporated by reference into this document:

- Our [Annual Report](#) on Form 10 -K for the year ended December 31, 2019 (Commission File No. 001-35994) filed with the SEC on March 25, 2021;
- Our [Quarterly Report](#) on Form 10-Q for the quarter ended March 31, 2021 (Commission File No. 001-35994) filed with the SEC on May 5, 2021;
- Our Current Reports on Form 8-K (Commission File No. 001-35994) filed with the SEC on [January 6, 2021](#), [January 26, 2021](#), [January 27, 2021](#), [February 9, 2021](#) (other than as indicated therein), [March 12, 2021](#), [April 12, 2021](#) (other than as indicated therein), [May 20, 2021](#) (other than as indicated therein) and [June 4, 2021](#) (other than as indicated therein);
- Our [Definitive Proxy Statement](#) on Schedule 14A filed with the SEC on July 27, 2020 and our [Definitive Revised Proxy Statement](#) on Schedule 14A filed with the SEC on July 29, 2020;
- The description of our common stock set forth in our registration statement on [Form 8-A](#) filed with the SEC on July 8, 2013 (Commission File No. 001-35994) as updated by the description of our common stock filed as [Exhibit 4.20](#) to our Annual Report on Form 10-K for the year ended December 31, 2020 filed with the SEC on March 25, 2021, including any amendments or reports filed for the purpose of updating such description; and
- The description of our common stock purchase rights set forth in our registration statement on [Form 8-A](#) filed with the SEC on March 12, 2018, [Form 8-A/A \(Amendment No. 1\)](#) filed on March 13, 2019, [Form 8-A/A \(Amendment No. 2\)](#) filed with the SEC on March 13, 2020, and [Form 8-A/A \(Amendment No. 3\)](#) filed with the SEC on March 12, 2021 (Commission File No. 001-35994) as updated by the description of our common stock purchase rights filed as [Exhibit 4.20](#) to our Annual Report on Form 10-K for the year ended December 31, 2020 filed with the SEC on March 25, 2021, including any amendments or reports filed for the purpose of updating such description.

We also incorporate by reference into this prospectus all documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (i) after the date of the initial filing of the registration statement of which this prospectus is a part and prior to effectiveness of the registration statement, or (ii) after the date of this prospectus but prior to the termination of the offering. These documents include periodic reports, such as Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements.

You may obtain, free of charge, a copy of any of these documents (other than exhibits to these documents unless the exhibits are specifically incorporated by reference into these documents or referred to in this prospectus) by writing or calling us at the following address and telephone number:

Heat Biologics, Inc.
627 Davis Drive, Suite 400
Morrisville, North Carolina 27560
(919) 240-7133
Attention: Corporate Secretary

Any statement contained in this prospectus or in a document incorporated or deemed to be incorporated by reference in this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or in any other subsequently filed document which also is or is deemed to be incorporated by reference in this prospectus modifies or supersedes that statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

**403,025 Shares of Common Stock Issuable Upon
Exercise of Outstanding Warrants**



PROSPECTUS

, 2021

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following sets forth the estimated costs and expenses, all of which shall be borne by the Registrant, in connection with the offering of the securities pursuant to this Registration Statement:

	<u>Amount</u>
SEC registration fee	\$ 488
Legal fees and expenses	30,000
Accountant's fees and expenses	5,000
Transfer agent and registrar fees and expenses	2,000
Miscellaneous	2,512
Total	\$ 40,000

Item 15. Indemnification of Directors and Officers.

Subsection (a) of Section 145 of the General Corporation Law of the State of Delaware, or 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 Delaware General Corporation Law, 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 Delaware General Corporation Law, and our amended and restated bylaws provide for indemnification of our directors and executive officers to the maximum extent permitted by the Delaware General Corporation Law.

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.

Item 16. Exhibits.

The Exhibits filed with this Registration Statement on Form S-3 or incorporated by reference from other filings are as follows:

- 3.1 [Third Amended and Restated Certificate of Incorporation \(Incorporated by reference to Exhibit 3.5 of the Registrant's Form S-1 \(File No. 333-188365\) filed with the Securities and Exchange Commission on May 6, 2013\)](#)
- 3.2 [Certificate of Amendment to the Third Amended and Restated Certificate of Incorporation \(Incorporated by reference to Exhibit 3.6 to the Registrant's Registration Statement on Form S 1 filed with the Securities and Exchange Commission on May 30, 2013 \(File No. 333 188365\)\)](#)
- 3.3 [Certificate of Amendment to the Third Amended and Restated Certificate of Incorporation \(Incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 17, 2017 \(File No. 001-35994\)\)](#)
- 3.4 [Certificate of Amendment to the Third Amended and Restated Certificate of Incorporation \(Incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on January 19, 2018 \(File No. 001-35994\)\)](#)
- 3.5 [Certificate of Amendment to the Third Amended and Restated Certificate of Incorporation \(Incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 23, 2020 \(File No. 001-35994\)\)](#)
- 3.6 [Amended and Restated Bylaws of Heat Biologics, Inc., dated October 17, 2019 \(Incorporated by reference to Exhibit 31 to the Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 18, 2019 \(File No. 001-35994\)\)](#)
- 4.1 [Specimen stock certificate evidencing the shares of common stock \(Incorporated by reference to Exhibit 4.8 of the Registrant's Form S-1 \(File No. 333-188365\) filed with the Securities and Exchange Commission on May 6, 2013\)](#)
- 4.2 [Warrant Agency Agreement by and between Heat Biologics, Inc. and Continental Stock Transfer & Trust Company, as warrant agent \(Incorporated by reference to Exhibit 4.1 of the Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on May 7, 2018\) \(File No. 001-35994\)\)](#)
- 4.3 [Form of May 2018 Common Warrant \(Incorporated by reference to Exhibit 4.2 of the Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on May 7, 2018\) \(File No. 001-35994\)\)](#)
- 5.1* [Legal opinion of Gracin & Marlow, LLP](#)
- 23.1* [Consent of BDO USA, LLP, Independent Registered Public Accounting Firm](#)
- 23.2* [Consent of Gracin & Marlow, LLP \(included in Exhibit 5.1\)](#)
- 24.1* [Powers of Attorney for our directors \(included on signature page\)](#)

* Filed herewith.

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;

(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 SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(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 the undertakings set forth in paragraphs (1)(i), (1)(ii) and (1)(iii) above 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 SEC 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 or is contained in a form of prospectus filed pursuant to Rule 424(b) that is a part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, 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 of 1933 to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. *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 effective date, 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 effective date; and

(iii) 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, 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 of the registrant under the Securities Act of 1933 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;
 - (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 of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 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) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers, and controlling persons of the registrant 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 of 1933 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 of 1933 and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on this Registration Statement on Form S-3 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Morrisville, State of North Carolina, June 11, 2021.

HEAT BIOLOGICS, INC.

By: /s/ Jeffrey Wolf
Chief Executive Officer,
President and Director
(Principal Executive Officer)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Jeffrey Wolf, as his true and lawful agent, proxy and attorney-in-fact, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to (i) act on, sign and file with the Securities and Exchange Commission any and all amendments (including post-effective amendments) to this Registration Statement together with all schedules and exhibits thereto and any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, together with all schedules and exhibits thereto, (ii) act on, sign and file such certificates, instruments, agreements and other documents as may be necessary or appropriate in connection therewith, (iii) act on and file any supplement to any prospectus included in this Registration Statement or any such amendment or any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and (iv) take any and all actions which may be necessary or appropriate to be done, as fully for all intents and purposes as he might or could do in person, hereby approving, ratifying and confirming all that such agent, proxy and attorney-in-fact or any of his substitutes may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons 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)	June 11, 2021
<u>/s/ William Ostrander</u> William Ostrander	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	June 11, 2021
<u>/s/ John Prendergast, Ph.D.</u> John Prendergast, Ph.D.	Lead Director	June 11, 2021
<u>/s/ John Monahan, Ph.D.</u> John Monahan, Ph.D.	Director	June 11, 2021
<u>/s/ Edward B. Smith, III</u> Edward B. Smith, III	Director	June 11, 2021



The Chrysler Building
405 Lexington Avenue, 26th Floor
New York, New York 10174
Telephone: (212) 907-6457
Facsimile: (212) 208-4657

June 11, 2021

The Board of Directors
Heat Biologics, Inc.
627 Davis Drive, Suite 400
Morrisville, North Carolina 27560

Re: Registration Statement on Form S-3

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-3 (the "Registration Statement"), relating to an aggregate of 403,025 shares (the "Shares") of the Company's common stock, par value \$0.0002 per share (the "Common Stock"), issuable upon exercise of 403,025 warrants previously issued on May 7, 2018 (the "Warrants") in an underwritten public offering pursuant to the terms of that certain underwriting agreement, dated May 2, 2018, by and between the Company and A.G.P./Alliance Global Partners, as representative of the several underwriters listed on Schedule 1 thereto (the "Underwriting Agreement"). The Registration Statement also relates to the Common Stock purchase rights (the "Rights") issuable in accordance with the rights agreement, dated as of March 11, 2018, between the Company and Continental Stock Transfer & Trust Company, as Rights Agent, as amended by Amendment No. 1 to the Rights Agreement, dated March 8, 2019, Amendment No. 2 to the Rights Agreement, dated March 10, 2020 and Amendment No. 3 to the Rights Agreement, dated March 8, 2021 (the "Rights Agreement"), which Rights are presently attached to the Common Stock.

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 and the Rights.

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 that: (i) the Shares have been duly authorized for issuance and, when issued and sold by the Company and delivered by the Company and upon valid exercise of the Warrants and against receipt of the exercise price therefor, in accordance with and in the manner described in the Registration Statement and the Warrants, the Shares will be validly issued, fully paid and non-assessable; and (ii) each of the Rights attached to the Shares, when issued in accordance with and in the manner described in the Registration Statement and the Rights Agreement, will constitute a valid and binding obligation of the Company.



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 Registration Statement. 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.

Very truly yours,

/s/ Gracin & Marlow, LLP

Consent of Independent Registered Public Accounting Firm

Heat Biologics, Inc.
Morrisville, North Carolina

We hereby consent to the incorporation by reference in this Prospectus constituting a part of this Registration Statement of our report dated March 25, 2021, relating to the consolidated financial statements of Heat Biologics, Inc. appearing in the Company's Annual Report on Form 10-K for the year ended December 31, 2020.

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

/s/ BDO USA, LLP
Raleigh, North Carolina

June 11, 2021