

HEAT BIOLOGICS, INC.
Form 424B5
April 04, 2019

Filed Pursuant to Rule 424(b)(5)

Registration No. 333-221201

PROSPECTUS SUPPLEMENT

(To the Prospectus dated November 13, 2017)

Up to \$18,000,000 of Shares

of Common Stock

We have entered into an At Market Issuance Sales Agreement, or the sales agreement, with B. Riley FBR, Inc., or B. Riley FBR, dated April 3, 2019, relating to shares of our common stock offered by this prospectus supplement. In accordance with the terms of the sales agreement, we may offer and sell shares of our common stock pursuant to this prospectus supplement having an aggregate offering price of up to \$18,000,000 from time to time through B. Riley FBR acting as sales agent. The sales agreement entered into with B. Riley FBR replaces the common stock sales agreement that we entered into with H.C. Wainwright & Co., LLC, dated January 18, 2018, for the issuance of shares in at the market offerings.

Our common stock is listed on the NASDAQ Capital Market under the symbol HTBX. On April 2, 2019, the last reported sale price of our common stock on the NASDAQ Capital Market was \$1.23 per share.

Sales of shares of our common stock, if any, under this prospectus supplement will be made in sales deemed to be an at the market offering as defined in Rule 415 promulgated under the Securities Act of 1933, as amended, or the Securities Act. B. Riley FBR is not required to sell any specific amount, but will act as sales agent on a commercially reasonable efforts basis consistent with its normal trading and sales practices, on mutually agreed terms between B. Riley FBR and us. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

B. Riley FBR will be entitled to compensation at a fixed commission rate of up to 3% of the gross proceeds of each sale of shares of our common stock. In connection with the sale of our shares of common stock on our behalf, B. Riley FBR will be deemed to be an underwriter within the meaning of the Securities Act and the compensation of B. Riley FBR will be deemed to be underwriting commissions or discounts. We have also agreed to provide indemnification and contribution to B. Riley FBR with respect to certain liabilities, including liabilities under the Securities Act.

As of the date of this prospectus supplement, the aggregate market value of our outstanding common stock held by non-affiliates was approximately \$54,383,197, based on 34,071,323 shares of outstanding common stock, of which 2,635,949 shares are held by affiliates, and a per share price of \$1.73, which represents the closing sale price of our common stock on February 28, 2019, which is the highest closing sale price of our common stock on the NASDAQ Capital Market within the prior 60 days. As of the date of this prospectus supplement, we have not offered or sold any common stock pursuant to General Instruction I.B.6 to Form S-3 during the 12 calendar month period that ends on and includes the date hereof. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities in a public primary offering with a value exceeding more than one-third of our public float (the market value of our common stock held by our non-affiliates) in any 12-month period so long as our public float remains below \$75,000,000.

Investing in our common stock involves a high degree of risk. Before making an investment decision, please read the information under the heading Risk Factors beginning on page S-4 of this prospectus supplement and in the documents incorporated by reference into this prospectus supplement and the accompanying base 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 supplement or the accompanying base prospectus. Any representation to the contrary is a criminal offense.

B. Riley FBR

The date of this prospectus supplement is April 3, 2019

TABLE OF CONTENTS

PROSPECTUS SUPPLEMENT

	Page
<u>ABOUT THIS PROSPECTUS SUPPLEMENT</u>	S-ii
<u>SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS</u>	S-iii
<u>PROSPECTUS SUPPLEMENT SUMMARY</u>	S-1
<u>THE OFFERING</u>	S-3
<u>RISK FACTORS</u>	S-4
<u>USE OF PROCEEDS</u>	S-6
<u>DIVIDEND POLICY</u>	S-7
<u>DILUTION</u>	S-8
<u>PLAN OF DISTRIBUTION</u>	S-9
<u>LEGAL MATTERS</u>	S-10
<u>EXPERTS</u>	S-10
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	S-10
<u>INCORPORATED OF CERTAIN DOCUMENTS BY REFERENCE</u>	S-10

PROSPECTUS

	Page
<u>ABOUT THIS PROSPECTUS</u>	ii
<u>PROSPECTUS SUMMARY</u>	1
<u>RISK FACTORS THAT MAY AFFECT FUTURE RESULTS</u>	6
<u>SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS</u>	7
<u>USE OF PROCEEDS</u>	8
<u>DIVIDEND POLICY</u>	8
<u>THE OFFERING</u>	9
<u>DESCRIPTION OF OUR CAPITAL STOCK</u>	10
<u>DESCRIPTION OF WARRANTS</u>	13
<u>DESCRIPTION OF UNITS</u>	15
<u>LEGAL OWNERSHIP OF SECURITIES</u>	16
<u>PLAN OF DISTRIBUTION</u>	19

<u>LEGAL MATTERS</u>	21
<u>EXPERTS</u>	21
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	21
<u>INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE</u>	21

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement is part of a registration statement that we have filed with the Securities and Exchange Commission, or SEC, utilizing a shelf registration process. Under the shelf registration process, we may offer shares of our common stock having an aggregate offering price of up to \$50,000,000 under the accompanying base prospectus. Under this prospectus supplement and the accompanying base prospectus, we may offer shares of our common stock having an aggregate offering price of up to \$18,000,000 from time to time at prices and on terms to be determined by market conditions at the time of offering.

We provide information to you about this offering of shares of our common stock in two separate documents that are bound together: (1) this prospectus supplement, which describes the specific details regarding this offering; and (2) the accompanying base prospectus, which provides general information, some of which may not apply to this offering. Generally, when we refer to this prospectus, we are referring to both documents combined.

If information in this prospectus supplement is inconsistent with the accompanying base prospectus or with any document incorporated by reference that was filed with the SEC before the date of this prospectus supplement, you should rely on this prospectus supplement. Any statement so modified will be deemed to constitute a part of this prospectus only as so modified, and any statement so superseded will be deemed not to constitute a part of this prospectus. However, if any statement in one of these documents is inconsistent with a statement in another document having a later date for example, a document incorporated by reference in this prospectus supplement, the statement in the document having the later date modifies or supersedes the earlier statement as our business, financial condition, results of operations and prospects may have changed since the earlier dates.

This prospectus supplement, the accompanying base prospectus and the documents incorporated into each by reference include important information about us, the securities being offered and other information you should know before investing in our securities. You should also read and consider information in the documents we have referred you to in the section of this prospectus supplement and the accompanying base prospectus entitled **Where You Can Find More Information** and **Incorporation of Certain Documents By Reference**.

You should rely only on the information contained in or incorporated by reference into this prospectus supplement and the accompanying base prospectus and any free writing prospectus we may provide to you in connection with this offering and the information incorporated or deemed to be incorporated by reference therein. We have not, and B. Riley FBR has not, authorized anyone to provide you with information that is in addition to or different from that contained or incorporated by reference in this prospectus supplement and the accompanying base prospectus. If anyone provides you with different or inconsistent information, you should not rely on it. We are not offering to sell these securities in any jurisdiction where the offer or sale is not permitted. You should not assume that the information contained or incorporated by reference in this prospectus supplement or the accompanying base prospectus is accurate as of any date other than as of the date of this prospectus supplement or the accompanying base prospectus, as the case

may be, or in the case of the documents incorporated by reference, the date of such documents regardless of the time of delivery of this prospectus supplement and the accompanying base prospectus or any sale of our securities. Our business, financial condition, liquidity, results of operations and prospects may have changed since those dates.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference in this prospectus supplement were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

This prospectus supplement contains and incorporates by reference market data and industry statistics and forecasts that are based on independent industry publications and other publicly available information. Although we believe that these sources are reliable, we do not guarantee the accuracy or completeness of this information and we have not independently verified this information. Although we are not aware of any misstatements regarding the market and industry data presented in this prospectus and the documents incorporated herein by reference, these estimates involve risks and uncertainties and are subject to change based on various factors, including those discussed under the heading **Risk Factors** in this prospectus supplement and under similar headings in the other documents that are incorporated by reference into this prospectus. Accordingly, investors should not place undue reliance on this information.

We are offering to sell, and are seeking offers to buy, the common stock only in jurisdictions where such offers and sales are permitted. No action has been or will be taken in any jurisdiction by us or B. Riley FBR that would permit a public offering of the common stock or the possession or distribution of this prospectus supplement and the accompanying base prospectus in any jurisdiction, other than in the United States. Persons outside the United States who come into possession of this prospectus supplement and the accompanying base prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus supplement and the accompanying base prospectus outside the United States. This prospectus supplement and the accompanying base prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and the accompanying base prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the documents incorporated by reference herein contain forward-looking statements within the meaning of Section 27A of the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, these statements reflect our current views with respect to our ongoing and planned clinical trials, business strategy, business plan, financial performance and other future events including statements regarding the progress and timing of our product development, the goals of our development activities, estimates of the potential markets for our product candidates, estimates of the capacity of manufacturing and other facilities to support our products, our expected future revenues, operations and expenditures and projected cash needs. The forward-looking statements are contained principally in the sections of this prospectus supplement and the documents incorporated by reference entitled Prospectus Summary, Risk Factors, Management's Discussion and Analysis of Financial Condition and Results of Operations and Business. These statements relate to future events of our 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. Those risks and uncertainties include, among others:

- .
our ability to implement our business plan;
- .
our ability to raise additional capital to meet our liquidity needs;
- .
our ability to generate sufficient proceeds from this offering;
- .
our ability to generate product revenues;
- .
our ability to achieve profitability;
- .
our ability to satisfy U.S. (including the Food and Drug Administration, or the FDA, and international regulatory requirements);
- .
our ability to obtain market acceptance of our technology and products;

.
our ability to compete in the market;

.
our ability to advance our clinical trials;

.
our ability to fund, design and implement clinical trials;

.
our ability to demonstrate that our product candidates are safe for human use and effective for indicated uses;

.
our ability to gain acceptance of physicians and patients for use of our products;

.
our dependency on third-party researchers and manufacturers and licensors;

.
our ability to effectively implement cost-cutting measures;

.
our ability to establish and maintain strategic partnerships, including for the distribution of products;

.
our ability to attract and retain sufficient, qualified personnel;

.
our ability to obtain or maintain patents or other appropriate protection for the intellectual property;

.
our dependency on the intellectual property licensed to us or possessed by third parties;

.
our ability to adequately support future growth;

.
our ability to maintain our NASDAQ listing; and

potential product liability or intellectual property infringement claims.

S-iii

Please consider our forward-looking statements in light of those risks as you read this prospectus supplement and the accompanying base prospectus. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. Given these uncertainties, you should not place undue reliance on these forward-looking statements.

You should not assume that the information contained in this prospectus supplement and the accompanying base prospectus is accurate as of any date other than as of the date of this prospectus supplement or the accompanying base prospectus, as the case may be, or that any information incorporated by reference into this prospectus supplement is accurate as of any date other than the date of the document so incorporated by reference. Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements.

If one or more of these or other risks or uncertainties materializes, or if our underlying assumptions prove to be incorrect, actual results may vary materially from what we anticipate. All subsequent written and oral forward-looking statements attributable to us or individuals acting on our behalf are expressly qualified in their entirety by this Note. Before purchasing any shares of common stock, you should consider carefully all of the factors set forth or referred to in this prospectus supplement, the accompanying base prospectus and the documents incorporated by reference that could cause actual results to differ.

S-iv

PROSPECTUS SUPPLEMENT SUMMARY

The items in the following summary are described in more detail elsewhere in this prospectus supplement and in the documents incorporated by reference herein. This summary highlights selected information contained elsewhere in this prospectus supplement. This summary is not intended to be complete and does not contain all of the information that you should consider before deciding to invest in our securities. You should read this entire prospectus supplement carefully, especially the Risk Factors section beginning on page S-4 and other documents or information included or incorporated by reference in this prospectus supplement before making an investment decision. Except where the context requires otherwise, in this prospectus the terms Company, Heat, we, us and our refer to Heat Biologics, Inc., a Delaware corporation.

Company Overview

We are a biopharmaceutical company developing immunotherapies focused on activating a patient's immune system against cancer through T-cell activation and expansion. Our T-cell Activation Platform (TCAP), includes two variations for intradermal administration, Immune Pan-antigen Cytotoxic Therapy (*ImPACT*[®]) and Combination Pan-antigen Cytotoxic Therapy (*ComPACT*). To further augment antigen experienced T-cell activation and expansion, we are also developing a novel T-cell co-stimulator PTX-35 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. Currently we are enrolling patients in our HS-110 combination immunotherapy trial, preparing IND submissions for our HS-130 and PTX-35 programs, and 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.

We are continuing to enroll patients in our Phase 2 clinical trial for advanced non-small cell lung cancer (NSCLC), in combination with either Bristol-Myers Squibb's nivolumab (Opdiv[®]) or more recently, Merck & Co., Inc.'s (Merck's) anti-PD1 checkpoint inhibitor, pembrolizumab (KEYTRUDA[®]). Our other programs are in pre-clinical and CMC development with two IND filings anticipated during 2019.

Our T-cell Activation Platform (TCAP), includes two variations, *ImPACT*[®] and *ComPACT* which are designed to activate and expand tumor antigen specific killer T-cells to destroy a patient's cancer. By turning immunologically COLD tumors HOT, we believe our platform will become an essential component of the immuno-oncology cocktail to enhance the effectiveness and durability of checkpoint inhibitors and other cancer therapies, thereby improving outcomes for those patients less likely to benefit from checkpoint inhibitors alone.

We believe the advantage of our approach is that our biologic agents deliver a broad range of tumor antigens that are unrecognized by the patient's immune system prior to the malignant rise of the patient's tumor. TCAP combines these tumor associated antigens with a powerful, naturally occurring immune adjuvant, gp96, to actively chaperone these antigens out of our non-replicating allogenic cell-based therapy into the local microenvironment of the skin. The treatment primes local natural immune recognition to activate T-cells to seek and destroy the cancer cells throughout the body. These TCAP agents can be administered with a variety of immuno-modulators to enhance a patient's immune response through ligand specific T-cell activation.

Unlike many other patient specific or autologous immunotherapy approaches, our drugs are fully-allogenic, off-the-shelf products, which means that we can administer immediately without the extraction of blood or tumor tissue from each patient or the creation of an individualized treatment based on these patient materials. Our TCAP product candidates from our *ImPACT*[®] and *ComPACT* platforms are produced from allogenic cell lines expressing tumor-specific proteins common among cancers. Because each patient receives the same treatment, we believe that our immunotherapy approach offers superior speed to initiation, logistical, manufacturing and importantly, cost benefits, compared to personalized precision medicine approaches.

Our *ImPACT*[®] platform is an allogenic cell-based, T-cell-stimulating platform that functions as an immune activator to stimulate and expand T-cells. The key component of this innovative immunotherapy platform is the dual functionality of the heat shock protein, gp96.

As a molecular chaperone, gp96 is typically found within the cell's endoplasmic reticulum and facilitates the folding of newly synthesized proteins for functionalized tasks. But when a cell abnormally dies through necrosis or infection, gp96 is naturally released into the surrounding microenvironment. At this moment, gp96 becomes a Danger Associated Molecular Protein or DAMP, a molecular warning signal for localized innate activation of the immune system. In this context gp96 serves as a potent adjuvant, or immune stimulator, via Toll-Like Receptor 4/2 (TLR4 and TLR2) signaling which serves to activate APCs to specialized dendritic cells that upregulate T-cell costimulatory ligands, MHC and immune activating cytokines. It is among the most powerful adjuvants found in the body and uniquely shows exclusive specificity to CD8+ killer T-cells through cross-presentation of the gp96-chaperoned tumor associated peptide antigens directly to MHC class I molecules for direct activation and expansion of CD8+ T-cells. Thus, gp96 plays a critical role in the mechanism of action for Heat's T-cell activating platform immuno-therapies; mimicking necrotic cell death and activating a powerful, tumor antigen-specific T-cell immune response to attack the patient's cancer cells.

ComPACT, our second TCAP, is a dual-acting immunotherapy designed to deliver antigen driven T-cell activation and specific co-stimulation in a single product. *ComPACT* is designed to help unlock the body's natural defenses and builds upon *ImPACT*[®] by providing specific co-stimulation to enhance T-cell activation and expansion. It has the potential to simplify combination immunotherapy development for oncology patients, as it is designed to deliver the gp96 heat shock protein and a T-cell co-stimulatory fusion protein (OX40L) as a single therapeutic, without the need for multiple, independent biologic products. The potential advantages of *ComPACT* include: (a) enhanced activation of antigen-specific CD8+ T-cells; (b) serving as a booster to expand the number of antigen-specific CD8+ T-cells compared to OX40L alone; (c) stimulation of T-cell memory function to remain effective in the body after treatment, even if the cancer comes back; (d) demonstration of less toxicity, as the source of cancer associated antigens and co-stimulator are supplied at the same time locally and the draining lymph nodes, which drive targeted, cancer specific immunity towards the tumor rather than throughout the body; and (e) a potential paradigm shift that is designed to simplify combination cancer immunotherapy versus systemic co-stimulation with conventional monoclonal antibodies (mAbs).

Pelican, our subsidiary, is a biotechnology company focused on the development of biologic based therapies designed to activate the immune system, including the monoclonal antibody, PTX-35. PTX-35, which is currently focused on preclinical IND enabling activities, is Pelican's lead product candidate targeting the T-cell co-stimulator, TNFRSF25. It is 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. TNFRSF25 agonism has been shown to provide highly selective and potent stimulation of antigen experienced memory CD8+ cytotoxic T-cells, which are the class of long-lived T-cells capable of eliminating tumor cells in patients. Due to the preferential specificity of PTX-35 to antigen experienced CD8+ T-cells, this agent represents a promising candidate as a T-cell co-stimulator in cancer patients.

When combined in preclinical studies with *ImPACT*[®] and *ComPACT* platform immunotherapies, PTX-35 has been shown to enhance antigen specific T-cell activation to eliminate tumor cells. Pelican is also developing other biologics that target TNFRSF25 for various immunotherapy approaches, including PTX-45, a human TL1A-Ig fusion protein designed as a shorter half-life agonist of TNFRSF25.

General Corporate Information

We were incorporated under the laws of the State of Delaware on June 10, 2008. Our principal offices are located at 801 Capitola Drive, Suite 12, Durham, North Carolina 27713. 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 supplement.

S-2

THE OFFERING

Issuer	Heat Biologics, Inc.
Common stock to be offered by us pursuant to this prospectus supplement	Shares of our common stock having an aggregate offering price of up to \$18,000,000.
Common stock to be outstanding after the offering	Up to 48,357,037 shares (as more fully described in the notes following this table), assuming sales of 14,285,714 shares of our common stock in this offering at an offering price of \$1.26 per share, which was the last reported sale price of our common stock on the NASDAQ Capital Market on March 28, 2019. The actual number of shares issued will vary depending on the sales price under this offering. ⁽¹⁾
Manner of offering	At the market offering that may be made from time to time on the NASDAQ Capital Market or other market for our common stock in the United States through our sales agent, B. Riley FBR, Inc. See the section entitled Plan of Distribution on page S-9 of this prospectus supplement.
Use of proceeds	We currently intend to use the net proceeds from this offering to fund our and our subsidiaries preclinical and clinical programs and for working capital and general corporate purposes, including, to acquire, license or invest in complementary businesses, technologies, product candidates or other intellectual property and to fund our milestone payment obligations. See Use of Proceeds.
Risk factors	You should read the Risk Factors section of this prospectus supplement and in the documents incorporated by reference in this prospectus supplement for a discussion of factors to consider before deciding to purchase shares of our common stock.
NASDAQ Capital Market Trading Symbol	HTBX

Unless we indicate otherwise, all information in this prospectus supplement is based on 34,071,323 shares outstanding as of March 28, 2019. The number of shares outstanding as used throughout this prospectus

supplement, unless otherwise indicated, excludes:

.
3,073,972 shares of our common stock issuable upon the exercise of outstanding stock options with a weighted average exercise price of \$2.64 per share;

.
9,030,730 additional shares of our common stock issuable upon the exercise of outstanding warrants at a weighted average exercise price of \$1.89 per share; and

.
72,867 additional shares of our common stock reserved for future issuance under our equity incentive plans as of March 28, 2019.

In addition, all information in this prospectus supplement reflects a one-for-ten reverse stock split of our issued and outstanding shares of common stock, options and warrants effected on January 19, 2018 and the corresponding adjustment of all common stock prices per share and stock option and warrant exercise prices per share and conversion ratios.

RISK FACTORS

Investing in our common stock involves a high degree of risk, and you should be able to bear the complete loss of your investment. You should consider carefully the risks described below and those described under the section captioned Risk Factors contained in our Annual Report on Form 10-K for the year ended December 31, 2018, any subsequent Annual Reports on Form 10-K, any subsequent Quarterly Reports on Form 10-Q or Current Reports on Form 8-K, and all other information contained or incorporated by reference into this prospectus supplement and the accompanying base prospectus before deciding whether to purchase any of the common stock being offered under this prospectus supplement. If any of the risks actually occur, our business, consolidated financial condition or results of operations could be adversely affected. In such case, the trading price of our common stock could decline and you could lose all or part of your investment. Our actual results could differ materially from those anticipated in the forward-looking statements made throughout this prospectus supplement as a result of different factors, including the risks we face described below. Unless we have indicated otherwise or the context otherwise requires, references in this prospectus supplement, the accompanying base prospectus or the documents incorporated by reference herein and therein to the Company, Heat Biologics, we, us and our refer to Heat Biologics, Inc.

Risks Related to this Offering

Our management will have broad discretion over the use of proceeds from this offering and may not use the proceeds effectively.

Our management will have broad discretion over the use of proceeds from this offering. We intend to use the net proceeds from this offering, if any, to fund our and our subsidiaries preclinical and clinical programs and for working capital and general corporate purposes, including, to acquire, license or invest in complementary businesses, technologies, product candidates or other intellectual property and to fund our milestone payment obligations. Our management will have considerable discretion in the application of the net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. The net proceeds, if any, may be used for corporate purposes that do not improve our operating results or enhance the value of our common stock. The failure of our management to use these funds effectively could have a material adverse effect on our business, cause the market price of our common stock to decline and impair the commercialization of our products and/or delay the development of our product candidates. Pending their use, we may invest the net proceeds from this offering in short-term, investment-grade, interest-bearing instruments and U.S. government securities. These investments may not yield a favorable return to our stockholders.

If you purchase shares of our common stock sold in this offering, you will experience immediate and substantial dilution in the net tangible book value of your shares. In addition, we may issue additional equity or convertible debt securities in the future, which may result in additional dilution to investors.

The price per share of our common stock being offered may be higher than the net tangible book value per share of our outstanding common stock prior to this offering. Assuming that an aggregate of 14,285,714 shares of our common stock are sold at a price of \$1.26 per share, the last reported sale price of our common stock on the NASDAQ Capital Market on March 28, 2019, for aggregate gross proceeds of approximately \$18,000,000 and after deducting commissions and estimated offering expenses payable by us, new investors in this offering will incur immediate dilution of \$0.44 per share. For a more detailed discussion of the foregoing, see the section entitled "Dilution" below. To the extent outstanding stock options or warrants are exercised, there will be further dilution to new investors.

Our need for future financing may result in the issuance of additional securities which will cause investors to experience dilution.

Our cash requirements may vary from those now planned depending upon numerous factors, including the result of future research and development activities. We expect our expenses to increase if and when we initiate and conduct Phase 3 and other clinical trials, and seek marketing approval for our product candidates. In addition, if we obtain marketing approval for any of our product candidates, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing and distribution. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. There are no other commitments by any person for future financing. Our securities may be offered to other investors at a price lower than the price per share offered to current stockholders, or upon terms which may be deemed more favorable than those offered to current stockholders. In addition, the issuance of securities in any future financing may dilute an investor's equity ownership and have the effect of depressing the market price for our securities. Moreover, we may issue derivative securities, including options and/or warrants, from time to time, to procure qualified personnel or for other business reasons. The issuance of any such derivative securities, which is at the discretion of our board of directors, may further dilute the equity ownership of our stockholders.

We may sell shares or other securities in any other offering at a price per share that is less than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock, or securities convertible or exchangeable into common stock, in future transactions may be higher or lower than the price per share paid by investors in this offering. No assurance can be given as to our ability to procure additional financing, if required, and on terms deemed favorable to us. To the extent additional capital is required and cannot be raised successfully, we may then have to limit our then current operations and/or may have to curtail certain, if not all, of our business objectives and plans.

We have additional securities available for issuance, which, if issued, could adversely affect the rights of the holders of our common stock.

Our Third Amended and Restated Certificate of Incorporation, as amended, authorizes the issuance of 100,000,000 shares of our common stock and 10,000,000 shares of preferred stock. In certain circumstances, the common stock, as well as the awards available for issuance under our equity incentive plans, can be issued by our board of directors, without stockholder approval. Any future issuances of such stock would further dilute the percentage ownership of us held by holders of preferred stock and common stock. In addition, the issuance of certain securities, including pursuant to the terms of our stockholder rights plan, may be used as an anti-takeover device without further action on the part of our stockholders, and may adversely affect the holders of the common stock.

Because we do not intend to declare cash dividends on our shares of common stock in the foreseeable future, stockholders must rely on appreciation of the value of our common stock for any return on their investment.

As stated above, we have never declared or paid cash dividends on our common stock. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends in the foreseeable future. As a result, we expect that only appreciation of the price of our common stock, if any, will provide a return to investors in this offering for the foreseeable future.

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

We may issue common stock from time to time in connection with this offering. This issuance from time to time of these new shares of our common stock, or our ability to issue these shares of common stock in this offering, 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.

The actual number of shares we will issue under the Sales Agreement, at any one time or in total, is uncertain.

Subject to certain limitations in the sales agreement with B. Riley FBR and compliance with applicable law, we have the discretion to deliver placement notices to B. Riley FBR at any time throughout the term of the sales agreement. The number of shares that are sold by B. Riley FBR after delivering a placement notice will fluctuate based on the market price of the common stock during the sales period and limits we set with B. Riley FBR.

The shares of common stock offered under this prospectus supplement and the accompanying base prospectus may be sold in at the market offerings, and investors who buy shares at different times will likely pay different prices.

Investors who purchase shares under this prospectus supplement and the accompanying base prospectus at different times will likely pay different prices, and so may experience different outcomes in their investment results. We will have discretion, subject to market demand, to vary the timing, prices, and numbers of shares sold, and there is no minimum or maximum sales price. Investors may experience declines in the value of their shares as a result of share sales made at prices lower than the prices they paid.

USE OF PROCEEDS

We may issue and sell shares of our common stock having aggregate gross proceeds of up to \$18,000,000 from time to time under this prospectus supplement and accompanying base prospectus. Because there is no minimum offering amount required as a condition to close this offering, the actual total offering amount, commissions and proceeds to us, if any, are not determinable at this time. The amount of proceeds from this offering will depend upon the number of shares of our common stock sold and the market price at which they are sold. There can be no assurance that we will be able to sell any shares under or fully utilize the sales agreement with B. Riley FBR as a source of financing.

We intend to use the net proceeds, if any, from the sales of securities offered by this prospectus supplement to fund our and our subsidiaries' preclinical and clinical programs and for working capital and general corporate purposes, including, to acquire, license or invest in complementary businesses, technologies, product candidates or other intellectual property and to fund our milestone payment obligations. We have broad discretion in determining how the proceeds of this offering will be used, and our discretion is not limited by the aforementioned possible uses. Our board of directors believes the flexibility in application of the net proceeds is prudent.

As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses for the net proceeds to be received from this offering. The amounts and timing of our actual expenditures will depend on numerous factors including the progress in, and costs of, our clinical trials and other preclinical development programs and the amount of funding, if any, received from grants. Accordingly, our management will have broad discretion in the application of the net proceeds, and investors will be relying on the judgment of management regarding the application of the net proceeds from the offering. We may find it necessary or advisable to reallocate the net proceeds of this offering; however, any such reallocation would be substantially limited to the categories set forth above as we do not intend to use the net proceeds for other purposes. Pending such uses set forth above, we plan to invest the net proceeds in government securities and other short-term investment grade, marketable securities.

S-6

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock and we do not currently intend to pay any cash dividends on our common stock in the foreseeable future. We expect to retain all available funds and future earnings, if any, to fund the development and growth of our business. Any future determination to pay dividends, if any, on our common stock will be at the discretion of our board of directors and will depend on, among other factors, our results of operations, financial condition, capital requirements and contractual restrictions.

S-7

DILUTION

If you 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 December 31, 2018, our net tangible book value was approximately \$22 million, or approximately \$0.68 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 an additional 1,579,179 restricted stock awards subsequent to December 31, 2018 our pro forma net tangible book value per share as of December 31, 2018 would have been approximately \$0.65 per share.

After giving effect to the issuance of an additional 1,579,179 restricted stock awards subsequent to December 31, 2018 and the sale of 14,285,714 shares of our common stock in this offering in the aggregate amount of approximately \$18 million at an assumed offering price of \$1.26 per share, which is the last reported sale price of our common stock on the NASDAQ Capital Market on March 28, 2019, and after deducting estimated offering commissions and estimated aggregate offering expenses payable by us, our pro forma as adjusted net tangible book value as of December 31, 2018 would have been approximately \$39,587,608, or \$0.82 per share of common stock. This represents an immediate increase in pro forma as adjusted net tangible book value of \$0.17 per share to existing stockholders and an immediate dilution of \$0.44 per share to new investors purchasing securities in this offering. The following table illustrates this per share dilution:

Assumed public offering price per share	\$	1.26
Pro forma net tangible book value per share as of December 31, 2018	\$	0.65
Increase in pro forma net tangible book value per share attributable to new investors in this offering	\$	0.17
Pro forma as adjusted net tangible book value per share after giving effect to this offering	\$	0.82
Dilution per share to new investors purchasing common stock in this offering	\$	0.44

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 warrants having a per share exercise price less than the per share offering price to the public in this offering. 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.

S-8

PLAN OF DISTRIBUTION

On April 3, 2019, we entered into an At Market Issuance Sales Agreement, or the sales agreement, with B. Riley FBR, under which we may issue and sell our common stock from time to time through B. Riley FBR acting as sales agent, subject to certain limitations, as described below. Pursuant to the terms of the sales agreement, in no event will we issue or sell through B. Riley FBR, as sales agent, such number or dollar amount of shares of common stock that would: (i) exceed the number or dollar amount of shares of common stock registered on the registration statement pursuant to which this offering relates; (ii) exceed the number of authorized but unissued shares of common stock; (iii) exceed the number or dollar amount of shares of common stock permitted to be sold under Form S-3 (including General Instruction I.B.6 thereof, if applicable); or (iv) exceed the number or dollar amount of common stock for which we have filed a prospectus supplement. The sales agreement entered into with B. Riley FBR replaces the common stock sales agreement that we entered into with H.C. Wainwright & Co., LLC, dated January 18, 2018, for the issuance of shares in at the market offerings.

The sales, if any, of shares made under the sales agreement will be made by any method that is deemed an at the market offering as defined in Rule 415 promulgated under the Securities Act. We may instruct B. Riley FBR not to sell common stock if the sales cannot be effected at or above the price designated by us from time to time. We or B. Riley FBR may suspend the offering of common stock upon notice and subject to other conditions.

B. Riley FBR will offer our common stock subject to the terms and conditions of the sales agreement as agreed upon by us and B. Riley FBR. Each time we wish to issue and sell common stock under the sales agreement, we will notify B. Riley FBR of the number of shares to be issued, the time period during which such sales are requested to be made, any limitation on the number of shares that may be sold in one day, any minimum price below which sales may not be made and other sales parameters as we deem appropriate. Once we have so instructed B. Riley FBR, unless B. Riley FBR declines to accept the terms of the notice, B. Riley FBR has agreed to use its commercially reasonable efforts consistent with its normal trading and sales practices to sell such shares up to the amount specified on such terms. The obligations of B. Riley FBR under the sales agreement to sell our common stock are subject to a number of conditions that we must meet.

We will pay B. Riley FBR commissions for its services in acting as agent in the sale of common stock. B. Riley FBR will be paid a commission in an amount equal to up to 3.0% of the gross sales price per share sold. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. We have also reimbursed B. Riley FBR for certain specified expenses, including the fees and disbursements of its legal counsel in an amount not to exceed \$50,000 and have agreed to reimburse B. Riley FBR an amount not to exceed \$2,500 per quarter during the term of the sales agreement for legal fees to be incurred by B. Riley FBR. We estimate that the total expenses for the offering, excluding commissions and reimbursements payable to B. Riley FBR under the terms of the sales agreement, will be approximately \$150,000.

Settlement for sales of common stock will generally occur on the second business day following the date on which any sales are made, or on some other date that is agreed upon by us and B. Riley FBR in connection with a particular transaction, in return for payment of the net proceeds to us. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

B. Riley FBR will act as sales agent on a commercially reasonable efforts basis consistent with its normal trading and sales practices and applicable state and federal laws, rules and regulations and the rules of The Nasdaq Stock Market LLC. In connection with the sale of the common stock on our behalf, B. Riley FBR will be deemed to be an underwriter within the meaning of the Securities Act and the compensation of B. Riley FBR will be deemed to be underwriting commissions or discounts. We have agreed to provide indemnification and contribution to B. Riley FBR against certain civil liabilities, including liabilities under the Securities Act.

The offering of our common stock pursuant to the sales agreement will terminate upon the earlier of (i) the sale of all of our common stock subject to the sales agreement, or (ii) termination of the sales agreement as provided therein.

B. Riley FBR and its affiliates may in the future provide various investment banking and other financial services for us and our affiliates, for which services they may in the future receive customary fees. To the extent required by Regulation M, B. Riley FBR will not engage in any market making activities involving our common stock while the offering is ongoing under this prospectus supplement.

This summary of the material provisions of the sales agreement does not purport to be a complete statement of its terms and conditions. A copy of the sales agreement has been filed with the SEC as Exhibit 1.1 to our Current Report on Form 8-K filed with the SEC on April 3, 2019.

LEGAL MATTERS

The validity of the shares of common stock offered hereby will be passed upon for us by Gracin & Marlow, LLP, New York, New York. Duane Morris, New York, New York, is acting as counsel to B. Riley FBR in this offering.

EXPERTS

The financial statements as of December 31, 2018 and 2017 and for each of the two years in the period ended December 31, 2018 incorporated by reference in this prospectus supplement and the accompanying base prospectus have been so incorporated in reliance on the report of BDO USA, LLP, an independent registered public accounting firm, incorporated by reference in this Prospectus and in the accompanying base prospectus, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and special reports, proxy statements and other information with the SEC. You may read and copy any document we file at the SEC's public reference room located at 100 F Street N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference room. Our public filings are also available to the public at the SEC's web site at www.sec.gov.

This prospectus supplement is part of a registration statement on Form S-3 that we have filed with the SEC under the Securities Act. This prospectus supplement does not contain all of the information in the registration statement. We have omitted certain parts of the registration statement, as permitted by the rules and regulations of the SEC. You may inspect and copy the registration statement, including exhibits, at the SEC's public reference room or Internet site.

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 supplement. We make available on our website our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K 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 Conduct, Code of Ethics and the Charters for the Audit Committee, Compensation Committee and Nominations Committee of the Board of Directors.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to incorporate by reference certain information that we will file with it which means that we can disclose important information to you by referring you to those documents instead of having to repeat the information in this prospectus supplement. The information incorporated by reference is considered to be part of this prospectus supplement, and the later information that we file with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below, however, we will not incorporate by reference any documents or portions thereof that are not deemed filed with the SEC, or any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K:

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 (File No. 001-35994) filed with the SEC on March 28, 2019;
- Our Current Reports on Form 8-K (File No. 001-35994) filed with the SEC on January 3, 2019, January 8, 2019, January 8, 2019, January 10, 2019, January 14, 2019, February 25, 2019, February 28, 2019, March 12, 2019, April 2, 2019 (other than as indicated therein) and April 3, 2019;
- Our Definitive Proxy Statement on Schedule 14A filed with the SEC on May 29, 2018;
- The description of our common stock set forth in our registration statement on Form 8-A12B, filed with the SEC on July 8, 2013 (File No. 001-35994);
- The description of our common stock purchase rights set forth in our registration statement on Form 8-A12B, filed with the SEC on March 12, 2018 (File No. 001-35994), and our registration statement on Form 8-A12B/A, filed with the SEC on March 13, 2019 (File No. 001-35994); and
- All documents filed by us with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act (Commission File No. 001-35994) after the date of this prospectus supplement and before the completion of the offering of the shares of our common stock included in this prospectus supplement.

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.

801 Capitola Drive, Suite 12
Durham, North Carolina 27713

(919) 240-7133

Any statement contained in this prospectus supplement or in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus supplement to the extent that a statement contained in this prospectus supplement or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein 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 supplement.

S-11

PROSPECTUS

\$50,000,000

Common Stock

Preferred Stock

Warrants

Units

We may offer and sell up to \$50,000,000 in the aggregate of the securities identified above from time to time in one or more offerings. This prospectus provides you with a general description of the securities.

Each time we offer and sell securities, we will provide a supplement to this prospectus that contains specific information about the offering and the amounts, prices and terms of the securities. The supplement may also add, update or change information contained in this prospectus with respect to that offering. You should carefully read this prospectus and the applicable prospectus supplement before you invest in any of our securities.

We may offer and sell the securities described in this prospectus and any prospectus supplement to or through one or more underwriters, dealers and agents, or directly to purchasers, or through a combination of these methods. If any underwriters, dealers or agents are involved in the sale of any of the securities, their names and any applicable purchase price, fee, commission or discount arrangement between or among them will be set forth, or will be calculable from the information set forth, in the applicable prospectus supplement. See the sections of this prospectus entitled *About this Prospectus* and *Plan of Distribution* for more information. No securities may be sold without

delivery of this prospectus and the applicable prospectus supplement describing the method and terms of the offering of such securities.

This prospectus may not be used to sell securities unless it is accompanied by a prospectus supplement.

INVESTING IN OUR SECURITIES INVOLVES RISKS. SEE THE RISK FACTORS ON PAGE 6 OF THIS PROSPECTUS AND ANY SIMILAR SECTION CONTAINED IN THE APPLICABLE PROSPECTUS SUPPLEMENT CONCERNING FACTORS YOU SHOULD CONSIDER BEFORE INVESTING IN OUR SECURITIES.

Our common stock is listed on the NASDAQ Capital Market under the symbol HTBX. On October 27, 2017, the last reported sale price of our common stock on the NASDAQ Capital Market was \$0.56 per share.

As of October 27, 2017, the aggregate market value of our outstanding common stock held by non-affiliates was \$25,109,897, based on 35,788,912 shares of outstanding common stock, of which 2,701,684 shares are held by affiliates, and a per share price of \$0.7589 based on the closing sale price of our common stock on October 6, 2017. As of the date of this prospectus, we have offered and sold common stock with an aggregate sales price of \$2,623,244 pursuant to General Instruction I.B.6 to Form S-3 during the 12 calendar month period that ends on and includes the date hereof.

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 November 13, 2017

TABLE OF CONTENTS

<u>ABOUT THIS PROSPECTUS</u>	ii
<u>PROSPECTUS SUMMARY</u>	1
<u>RISK FACTORS THAT MAY AFFECT FUTURE RESULTS</u>	6
<u>SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS</u>	7
<u>USE OF PROCEEDS</u>	8
<u>DIVIDEND POLICY</u>	8
<u>THE OFFERING</u>	9
<u>DESCRIPTION OF OUR CAPITAL STOCK</u>	10
<u>DESCRIPTION OF WARRANTS</u>	13
<u>DESCRIPTION OF UNITS</u>	15
<u>LEGAL OWNERSHIP OF SECURITIES</u>	16
<u>PLAN OF DISTRIBUTION</u>	19
<u>LEGAL MATTERS</u>	21
<u>EXPERTS</u>	21
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	21
<u>INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE</u>	21

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 part of a registration statement that we filed with the U.S. Securities and Exchange Commission, (the SEC), using a shelf registration process. By using a shelf registration statement, we may sell securities from time to time and in one or more offerings up to a total dollar amount of \$50 million of securities as described in this prospectus. Each time that we offer and sell securities, we will provide a prospectus supplement to this prospectus that contains specific information about the securities being offered and sold and the specific terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus with respect to that offering. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement, you should rely on the prospectus supplement. Before purchasing any securities, you should carefully read both this prospectus and the applicable prospectus supplement, together with the additional information described under the heading **Where You Can Find More Information** and **Incorporation of Certain Documents by Reference**.

You should rely only on the information provided or incorporated by reference in this prospectus or in any prospectus supplement. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We will not make an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus and the applicable prospectus supplement to this prospectus is accurate as of the date on its respective cover, and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, unless we indicate otherwise. Our business, financial condition, results of operations and prospects may have changed since those dates.

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.

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 common stock. 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 and any prospectus supplement before making any investment decision.

Overview

Heat Biologics is a biopharmaceutical company developing immunotherapies designed to activate a patient's CD8+ Killer T-cells against cancer. Our T-Cell Activation Platform (TCAP) produces therapies designed to turn "cold" tumors "hot" and be administered in combination with checkpoint inhibitor therapies and other immuno-modulators to increase their effectiveness. We can also utilize our TCAP approach to combine with existing T-cell checkpoint inhibitors and co-stimulators in a single treatment. This offers the potential benefit of combination immunotherapy without the need for multiple, independent biologic products. We are currently enrolling patients in our Phase 2 clinical trial for non-small cell lung cancer, in combination with Bristol-Myers Squibb's nivolumab (Opdivo®). We also have numerous pre-clinical programs at various stages of development.

Through our *ImPACT*® platform technology, we have developed product candidates that consist of live, allogeneic *off-the-shelf* genetically-modified, irradiated human cancer cells. These cells are intended to secrete a broad spectrum of Cancer Testis Antigens (CTA), classified as tumor antigens, together with the gp96 protein. Our *ImPACT*® technology achieves this by reprogramming live tumor cells to secrete gp96, along with their chaperoned tumor antigens; thereby, transforming the allogeneic cells into machines that activate a robust killer CD8+ T cell immune attack against a patient's cancer. Unlike autologous or personalized therapeutic, monotherapy approaches that either require the extraction of blood or tumor tissue from each patient or the creation of an individualized treatment, our product candidates are fully allogeneic, and do not require extraction of individual patient's material or custom manufacturing. As a result, our product candidates can be mass-produced and readily available for immediate patient use. Because each patient receives the same treatment, we believe that our immunotherapy approach offers logistical, manufacturing and other cost benefits, compared to patient-specific or precision medicine approaches.

Our lead *ImPACT*® program, HS-110, is in a Phase 2 clinical trial focused on non-small cell lung cancer in combination with Bristol-Myers Squibb's nivolumab (Opdivo®). HS-110 is made of a cancer cell line that has

been genetically modified using our *ImPACT* technology system. It is designed to secrete a wide range of lung cancer-associated antigens bound to gp96 proteins, while activating a broad, T cell mediated immune response against the patient's cancer.

Our *ComPACT* platform technology, currently in preclinical development, is a dual-acting immunotherapy, combining a pan-antigen T-cell activator and a T-cell co-stimulator in a single product, offering the potential benefits of combination immunotherapy without the need for multiple, independent biologic products. The platform offers broad versatility and has been engineered to incorporate into the gp96-Ig expression vector and various fusion proteins targeting co-stimulatory receptors, including but not limited to, OX40, ICOS, GITR and TLIA.

In May 2017, we acquired two T cell co-stimulators through our acquisition of 80% of the outstanding equity of Pelican Therapeutics, Inc. (Pelican), broadening our pipeline and strengthening our portfolio in the emerging T-cell activation space. We believe the use of these therapeutic agents, in combination with other immunotherapies, have the potential dramatically improve patient outcomes.

Pelican is the only company with a disclosed preclinical pipeline targeting the T-cell co-stimulator, TNFRSF25. We believe PTX-35 can activate memory CD8+ cytotoxic T-cells and eliminate tumor cells in patients. This solution is designed to harness the body's natural tolerance mechanisms to reprogram the immune system and provide a long-term, durable effect after a short course of therapy. Combined with other immunotherapies, including *ImPACT* and *ComPACT*, PTX-35 could boost anti-cancer responses due to its potential to improve the durability of antigen-specific immune responses and a preferential specificity for stimulating the production of memory CD8+ t cells. In May 2016, a \$15.2 million grant was awarded to Pelican from the Cancer Prevention and Research Institute of Texas (CPRIT) to support further development of PTX-35 and examine the benefits it may provide to patients with several types of cancers, such as lung, lymphoma, prostate, pancreatic and ovarian.

PTX-15, Pelican's second product candidate, is a human TL1A-Ig fusion protein designed to trigger regulatory T-cell proliferation. We believe it can provide precise control of the regulatory arm of our immune system, and can be used in immuno-oncology or to prevent inflammation in autoimmune diseases and transplantation. As both Pelican therapies are based on natural, existing components of the immune system, we expect they will be safer, longer-lasting, and more effective than traditional medicines after only a short course of therapy.

Our wholly-owned subsidiary, Zolovax, Inc. (Zolovax), is in preclinical studies to develop therapeutic and preventative medicines to treat infectious diseases based on our gp96 therapeutic technology, with a current focus on the development of a Zika vaccine in collaboration with the University of Miami. Other infectious diseases of interest include HIV, West Nile virus, and Dengue and yellow fever.

General Corporate Information

We were incorporated under the laws of the State of Delaware on June 10, 2008. Our principal offices are located at 801 Capitola Drive, Bay 12, Durham, North Carolina 27713. Our website address is www.heatbio.com. We make our periodic and current reports that are filed with the Securities and Exchange Commission (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.

Implications of Being an Emerging Growth Company

We qualify as an emerging growth company as defined in the Jumpstart Our Business Startups Act of 2012 (the JOBS Act). As an emerging growth company, we intend to take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include:

.
allowance to provide only two years of audited financial statements in addition to any required unaudited interim financial statements with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;

reduced disclosure about our executive compensation arrangements;

.

no non-binding advisory votes on executive compensation or golden parachute arrangements; and

.

exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting.

We may take advantage of these provisions for up to five years or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company on the date that is the earliest of: (i) the last day of the fiscal year in which we have total annual gross revenues of \$1 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of our initial public offering; (iii) the date on which we have issued more than \$1 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the SEC. We have taken advantage of reduced reporting requirements in this prospectus. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you have beneficial ownership.

The Securities That May Be Offered

We may offer shares of our common stock and preferred stock, and/or warrants to purchase any of such securities, either individually or in combination with other securities or as units, with a total value of up to \$50,000,000 from time to time under this prospectus, together with the applicable prospectus supplement and any related free writing prospectus, at prices and on terms to be determined by market conditions at the time of any offering. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities under this prospectus, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities, including, to the extent applicable:

.

designation or classification;

.

aggregate principal amount or aggregate offering price;

.

maturity date, if applicable;

.

original issue discount, if any;

.

rates and times of payment of interest or dividends, if any;

.

redemption, conversion, exercise, exchange or sinking fund terms, if any;

.

ranking;

.

restrictive covenants, if any;

.

voting or other rights, if any;

.

conversion or exchange prices or rates, if any, and, if applicable, any provisions for changes to or adjustments in the conversion or exchange prices or rates and in the securities or other property receivable upon conversion or exchange; and

.

material or special U.S. federal income tax considerations, if any.

The applicable prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change any of the information contained in this prospectus or in the documents we have incorporated by reference. However, no prospectus supplement or free writing prospectus will offer a security that is not registered and described in this prospectus at the time of the effectiveness of the registration statement of which this prospectus is a part.

THIS PROSPECTUS MAY NOT BE USED TO CONSUMMATE A SALE OF SECURITIES UNLESS IT IS ACCOMPANIED BY A PROSPECTUS SUPPLEMENT.

We may offer and sell these securities directly to investors or to or through one or more agents, underwriters, dealers or other third parties. We or underwriters, reserve the right to accept or reject all or part of any

proposed purchase of securities. If we do offer securities to or through agents or underwriters, we will include in the applicable prospectus supplement:

.

the names of those agents or underwriters;

.

applicable fees, discounts and commissions to be paid to them;

.

details regarding over-allotment options, if any; and

.

the net proceeds to us.

Common Stock

We may issue shares of our common stock from time to time.

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. Accordingly, the holders of a majority of the shares of our common stock entitled to vote in any election of directors can elect all of the directors standing for election.

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.

In this prospectus, we have summarized certain general features of our common stock under **Description of Capital Stock - Common Stock**. We urge you, however, to read the applicable prospectus supplement (and any related free writing prospectus that we may authorize to be provided to you) related to any common stock being offered.

Preferred Stock

We may issue shares of our preferred stock from time to time, in one or more series. Under our Third Amended and Restated certificate of incorporation, our board of directors has the authority, without further action by the stockholders (unless such stockholder action is required by applicable law or the rules of any stock exchange or market on which our securities are then traded), to designate and issue up to 10,000,000 shares of preferred stock in one or more series (of which 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), to establish from time to time the number of shares to be included in each such series, to fix the rights, preferences and privileges of the shares of each wholly unissued series and any qualifications, limitations or restrictions thereon and to increase or decrease the number of shares of any such series, but not below the number of shares of such series then outstanding. 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 (authority to do so being hereby expressly vested in the Board of Directors).

Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of the common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in our control that may otherwise benefit holders of our common stock and may adversely affect the market price of the common stock and the voting and other rights of the holders of common stock. It is not possible to state the actual effect of the issuance of any shares of preferred stock on the rights of holders of common stock until the board of directors determines the specific rights attached to that preferred stock. We have no current plans to issue any shares of preferred stock.

In this prospectus, we have summarized certain general features of the preferred stock under Description of Capital Stock Preferred Stock. We urge you, however, to read the applicable prospectus supplement (and any related free writing prospectus that we may authorize to be provided to you) related to the series of preferred stock being offered, as well as the complete certificate of designation that contains the terms of the applicable series of preferred stock.



Warrants

We may issue warrants for the purchase of common stock and/or preferred stock in one or more series. We may issue warrants independently or in combination with common stock and/or preferred stock. In this prospectus, we have summarized certain general features of the warrants under Description of Warrants.

We urge you, however, to read the applicable prospectus supplement (and any related free writing prospectus that we may authorize to be provided to you) related to the particular series of warrants being offered, as well as the form of warrant and/or the warrant agreement and warrant certificate, as applicable, that contain the terms of the warrants. We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant and/or the warrant agreement and warrant certificate, as applicable, that contain the terms of the particular series of warrants we are offering, and any supplemental agreements, before the issuance of such warrants.

Warrants may be issued under a warrant agreement that we enter into with a warrant agent. We will indicate the name and address of the warrant agent, if any, in the applicable prospectus supplement relating to a particular series of warrants.

Units

We may offer units consisting of our common stock or preferred stock, and/or warrants to purchase any of these securities in one or more series. We may evidence each series of units by unit certificates that we will issue under a separate agreement. We may enter into unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of the unit agent in the applicable prospectus supplement relating to a particular series of units. This prospectus contains only a summary of certain general features of the units. The applicable prospectus supplement will describe the particular features of the units being offered thereby. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of units being offered, as well as the complete unit agreements that contain the terms of the units. Specific unit agreements will contain additional important terms and provisions and will be incorporated by reference into the registration statement of which this prospectus is a part from reports we file with the SEC.

RISK FACTORS THAT MAY AFFECT FUTURE RESULTS

*You should consider carefully the risks discussed under the section captioned **Risk Factors** contained in our annual report on Form 10-K for the year ended December 31, 2016 and in our subsequent quarterly reports on Form 10-Q, as updated by our subsequent filings under the Securities Exchange Act of 1934, as amended (the **Exchange Act**), each of which is incorporated by reference in this prospectus in its entirety, together with other information in this prospectus, and the information and documents incorporated by reference in this prospectus, any prospectus supplement and any free writing prospectus that we have authorized for use in connection with this offering before you make a decision to invest in our securities. If any of these events actually occur, our business, operating results, prospects or financial condition could be materially and adversely affected. This could cause the trading price of our common stock to decline and you may lose all or part of your investment.*

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein contain forward-looking statements, including statements regarding the progress and timing of our product development, the goals of our development activities, estimates of the potential markets for our product candidates, estimates of the capacity of manufacturing and other facilities to support our products, our expected future revenues, operations and expenditures and projected cash needs. The forward-looking statements are contained principally in the sections of this prospectus, any prospectus supplement and the documents incorporated by reference entitled Prospectus Summary, Risk Factors, Management Discussion and Analysis of Financial Condition and Results of Operations and Business. These statements relate to future events of our 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. Those risks and uncertainties include, among others:

- .
our ability to implement our business plan;
- .
our ability to raise additional capital to meet our liquidity needs;
- .
our ability to generate sufficient proceeds from this offering;
- .
our ability to generate product revenues;
- .
our ability to achieve profitability;
- .
our ability to satisfy U.S. (including FDA) and international regulatory requirements;
- .
our ability to obtain market acceptance of our technology and products;
- .
our ability to compete in the market;

.
our ability to advance our clinical trials;

.
our ability to fund, design and implement clinical trials;

.
our ability to demonstrate that our product candidates are safe for human use and effective for indicated uses;

.
our ability to gain acceptance of physicians and patients for use of our products;

.
our dependency on third-party researchers and manufacturers and licensors;

.
our ability to effectively implement cost-cutting measures;

.
our ability to establish and maintain strategic partnerships, including for the distribution of products;

.
our ability to attract and retain sufficient, qualified personnel;

.
our ability to obtain or maintain patents or other appropriate protection for the intellectual property;

.
our dependency on the intellectual property licensed to us or possessed by third parties;

.
our ability to adequately support future growth;

.
Pelican's ability to operate successfully and our ability to integrate our operations with those of Pelican; and

.
potential product liability or intellectual property infringement claims.

Forward-looking statements include all statements that are not historical facts. In some cases, you can identify forward-looking statements by terms such as may, will, should, could, would, expects, plans, anticipates, estimates, projects, predicts, potential, or the negative of those terms, and similar expressions and comparative terminology intended to identify forward-looking statements. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements. These forward-looking statements represent our estimates and assumptions only as of the date of this prospectus and, except as required by law, we undertake no obligation to update or review publicly any forward-looking statements, whether as a result of new information, future events or otherwise after the date of this prospectus. You should read this prospectus, the documents incorporated by reference in this prospectus, the documents referenced in this prospectus and the documents filed as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of our forward-looking statements by these cautionary statements.

USE OF PROCEEDS

We intend to use the net proceeds, if any, from the sales of securities offered by this prospectus to fund our and our subsidiaries' preclinical and clinical programs and for working capital and general corporate purposes, including, to acquire, license or invest in complementary businesses, technologies, product candidates or other intellectual property.

We have broad discretion in determining how the proceeds of this offering will be used, and our discretion is not limited by the aforementioned possible uses. Our board of directors believes the flexibility in application of the net proceeds is prudent.

As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to be received from this offering. The amounts and timing of our actual expenditures will depend on numerous factors including the progress in, and costs of, our clinical trials and other preclinical development programs and the amount of funding, if any, received from grants. Accordingly, our management will have broad discretion in the application of the net proceeds, and investors will be relying on the judgment of management regarding the application of the net proceeds from the offering. We may find it necessary or advisable to reallocate the net proceeds of this offering; however, any such reallocation would be substantially limited to the categories set forth above as we do not intend to use the net proceeds for other purposes. Pending such uses set forth above, we plan to invest the net proceeds in government securities and other short-term investment grade, marketable securities.

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.



THE OFFERING

We may offer shares of our common stock, preferred stock, warrants to purchase any of such securities, either individually or in combination, and/or units consisting of some or all of such securities for total gross proceeds of up to \$50 million, from time to time under this prospectus, together with the applicable prospectus supplement and any related free writing prospectus, at prices and on terms to be determined by market conditions at the time of any offering. Each time we offer a type or series of securities under this prospectus, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities being offered. Below is a summary of the securities we may offer under this prospectus (together with the applicable prospectus supplement).

We may sell the securities directly to investors or to or through agents, underwriters or dealers. We, and our agents or underwriters, reserve the right to accept or reject all or part of any proposed purchase of securities. Each prospectus supplement will set forth the names of any underwriters, dealers or agents involved in the sale of securities described in that prospectus supplement and any applicable fee, commission or discount arrangements with them.

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 100,000,000 shares of common stock, par value \$0.0002 per share, of which 35,788,912 shares are outstanding as of October 27, 2017 and 10,000,000 shares of preferred stock, par value \$0.0001 per share, of which 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

The holders of our common stock are entitled to one vote per share on all matters to be voted on by the shareholders and do not have cumulative voting rights. Subject to preferences that may be applicable to any outstanding shares of preferred stock, holders of common stock are entitled to receive ratably such dividends as may be declared by the Board out of funds legally available therefore. If we liquidate, dissolve or wind up, holders of common stock are entitled to share ratably in all assets remaining after payment of liabilities and the liquidation preferences of any outstanding shares of preferred stock. The holders of our common stock have no preemptive, conversion or subscription rights and there are no redemption or sinking fund provisions applicable to the common stock. All outstanding shares of common stock are, and all shares of common stock to be outstanding upon completion of this offering will be, fully paid and nonassessable. Except as otherwise required by Delaware law, all stockholder action, other than the election of directors, is taken by the vote of a majority of the outstanding shares of common stock voting as a single class present at a meeting of stockholders at which a quorum consisting of a majority of the outstanding shares of common stock is present in person or proxy. The election of directors by our stockholders, is determined by a plurality of the votes cast by the stockholders entitled to vote at any meeting held for such purposes at which a quorum consisting of a majority of the outstanding shares of common stock is present in person or proxy.

Reverse Stock Split

At our 2017 Annual Meeting of Stockholders, our stockholders approved an amendment to our certificate of incorporation, as amended, to implement a reverse stock split of our common stock with the ratio to be determined by our board of directors, within a range of one (1) share of common stock for every two (2) to ten (10) shares of common stock. If the board of directors continues to believe that a reverse stock split is in the best interests of our Company and our stockholders, the board will determine the ratio, within the range approved by our stockholders, of the reverse stock split and implement such reverse stock split by filing a certificate of amendment to our certificate of incorporation (the "Certificate of Amendment for Reverse Split") with the Secretary of State of the State of Delaware (the "Reverse Stock Split"). The Reverse Stock Split, if any, will become effective after the filing of the Certificate of Amendment for Reverse Split on the effective date set forth in this certificate.

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 \$.0001 per share, of which 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 (authority to do so being hereby expressly vested in the Board of Directors).

Under our Third Amended and Restated Certificate of Incorporation, as amended, our board of directors is authorized by resolution to divide the preferred stock into series and, with respect to each series, 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, without 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 following summary of terms of our preferred stock is not complete. You should refer to the provisions of our certificate of incorporation and bylaws and the resolutions containing the terms of each class or series of the preferred stock which have been or will be filed with the SEC at or prior to the time of issuance of such class or series of preferred stock and described in any applicable prospectus supplement. Any applicable prospectus supplement may also state that any of the terms set forth herein are inapplicable to such series of preferred stock, provided that the information set forth in such prospectus supplement does not constitute material changes to the information herein such that it alters the nature of the offering or the securities offered.

We will fix the designations, voting powers, preferences and rights of the preferred stock of each series we issue under this prospectus, as well as the qualifications, limitations or restrictions thereof, in the certificate of designation relating to that series. We will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of any certificate of designation that describes the terms of the series of preferred stock we are offering. We will describe in any applicable prospectus supplement the terms of the series of preferred stock being offered, including, to the extent applicable:

- the title and stated value;
- the number of shares we are offering;
- the liquidation preference per share;
- the purchase price;
- the dividend rate, period and payment date and method of calculation for dividends;
- whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;
- the procedures for any auction and remarketing;
- the provisions for a sinking fund;
- the provisions for redemption or repurchase and any restrictions on our ability to exercise those redemption and repurchase rights;
- any listing of the preferred stock on any securities exchange or market;
- whether the preferred stock will be convertible into our common stock, and the conversion rate or conversion price, or how they will be calculated, and the conversion period;
- whether the preferred stock will be exchangeable into debt securities, and the exchange rate or exchange price, or how they will be calculated, and the exchange period;
- voting rights of the preferred stock;
- preemptive rights;

- restrictions on transfer, sale or other assignment;
- whether interests in the preferred stock will be represented by depositary shares;
- a discussion of material or special U.S. federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights if we liquidate, dissolve or wind up our affairs;
- any limitations on the issuance of any class or series of preferred stock ranking senior to or on a parity with the series of preferred stock as to dividend rights and rights if we liquidate, dissolve or wind up our affairs; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the preferred stock.

If we issue shares of preferred stock under this prospectus, the shares will be fully paid and nonassessable.

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.

Potential Anti-Takeover Effects

Certain provisions set forth in our Third Amended and Restated Certificate of Incorporation, as amended, in our bylaws 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.

Blank Check Preferred Stock. Our certificate of incorporation and bylaws contain provisions that permit us to issue, without any further vote or action by the stockholders, up to 10,000,000 shares of preferred stock in one or more series and, with respect to each such series, to fix the number of shares constituting the series and the designation of the series, the voting powers, if any, of the shares of the series, and the preferences and relative, participating, optional and other special rights, if any, and any qualifications, limitations or restrictions, of the shares of such series.

Special Meetings of Stockholders. Our bylaws provide that special meetings of stockholders may be called only by the chairman or by our board. Stockholders are not permitted to call a special meeting of stockholders, to require that the board call such a special meeting, or to require that our board request the calling of a special meeting of stockholders.

While the foregoing provisions of our certificate of incorporation, 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.

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.

The transfer agent and registrar for any series or class of preferred stock will be set forth in the applicable prospectus supplement.

DESCRIPTION OF WARRANTS

Warrants

On March 10, 2011, we issued warrants to purchase 32,610 shares of common stock to non-employee placement agents in consideration for a private equity placement transaction, of which 17,392 warrants remain outstanding as of June 30, 2017. The warrants have an exercise price of \$0.48 per share and expire 10 years from the issuance date.

In connection with our initial public offering, we issued warrants to the underwriters for 125,000 shares of common stock issuable at \$12.50 per share upon exercise. The warrants have a five-year life and expire on July 23, 2018. In addition, the warrants provide for registration rights upon request, in certain cases. The holders of the warrants were granted demand registration rights for a period of five years from the effective date of the offering and piggyback registration rights for a period of seven years from the effective date of the offering. The exercise price and number of shares issuable upon exercise of the warrants may be adjusted in certain circumstances including in the event of a stock dividend or our recapitalization, reorganization, merger or consolidation. However, the warrant exercise price or underlying shares will not be adjusted for issuances of shares of common stock at a price below the warrant exercise price.

In connection with our March 2016 public offering, we issued warrants to purchase 6,825,000 shares of our common stock, at an exercise price of \$1.00 per share, of which 2,961,571 are remaining. The warrants have a five-year life and expire after March 22, 2021.

We may issue warrants for the purchase of common stock or preferred stock. We may issue warrants independently or in combination with common stock or preferred stock. In this prospectus, we have summarized certain general features of the warrants. We urge you, however, to read the applicable prospectus supplement (and any related free writing prospectus that we may authorize to be provided to you) related to the particular series of warrants being offered, as well as any warrant agreements and warrant certificates that contain the terms of the warrants. We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant and/or the warrant agreement and warrant certificate, as applicable, that contain the terms of the particular series of warrants we are offering, and any supplemental agreements, before the issuance of such warrants.

Any warrants issued under this prospectus may be evidenced by warrant certificates. Warrants also may be issued under an applicable warrant agreement that we enter into with a warrant agent. We will indicate the name and address of the warrant agent, if applicable, in the prospectus supplement relating to the particular series of warrants being offered.

The following description, together with the additional information that we include in any applicable prospectus supplement and in any related free writing prospectus that we may authorize to be distributed to you, summarizes the material terms and provisions of the warrants that we may offer under this prospectus, which may be issued in one or more series. While the terms we have summarized below will apply generally to any warrants that we may offer under this prospectus, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement and in any related free writing prospectus that we may authorize to be distributed to you. The following description of warrants will apply to the warrants offered by this prospectus unless we provide otherwise in the applicable prospectus supplement. The applicable prospectus supplement for a particular series of warrants may specify different or additional terms.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant and/or the warrant agreement and warrant certificate, as applicable, that contain the terms of the particular series of warrants we are offering, and any supplemental agreements, before the issuance of such warrants.

The summary below and that contained in any prospectus supplement is qualified in its entirety by reference to all of the provisions of the warrant and/or the warrant agreement and warrant certificate, as applicable, applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplements and any related free writing prospectuses related to the warrants that we may offer under this prospectus, as well as the complete warrant and/or the warrant agreement and warrant certificate, as applicable, that contains the terms of the warrants.

General

We will describe in the applicable prospectus supplement the terms of the series of warrants being offered, including:

- the offering price and aggregate number of warrants offered;
- the currency for which the warrants may be purchased;
- if applicable, the number of warrants issued with each such security;
- the number of shares of common stock and/or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreements and the warrants;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreements and warrants may be modified;
- a discussion of any material or special U.S. federal income tax considerations of holding or exercising the warrants;
- the terms of the securities issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Before exercising their warrants, holders of warrants will not have any of the rights of holders of the securities purchasable upon such exercise, including the right to receive dividends, if any, or, payments upon our liquidation, dissolution or winding up or to exercise voting rights, if any:

Exercise of Warrants

Each warrant will entitle the holder to purchase the securities that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. The warrants may be exercised as set forth in the prospectus supplement relating to the warrants offered. Unless we otherwise specify in the applicable prospectus supplement, warrants may be exercised at any time up to the close of business on the expiration date set forth in the prospectus supplement relating to the warrants offered thereby. After the close of business on the expiration date, unexercised warrants will become void.

Upon receipt of payment and the warrant or warrant certificate, as applicable, properly completed and duly executed at the corporate trust office of the warrant agent, if any, or any other office, including ours, indicated in the prospectus supplement, we will, as soon as practicable, issue and deliver the securities purchasable upon such exercise. If less than all of the warrants (or the warrants represented by such warrant certificate) are exercised, a new warrant or a new

warrant certificate, as applicable, will be issued for the remaining warrants.

Enforceability of Rights by Holders of Warrants

Each warrant agent, if any, will act solely as our agent under the applicable warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any warrant. A warrant agent may act as warrant agent for more than one issue of warrants. A warrant agent will have no duty or responsibility in case of any default by us under the applicable warrant agreement or warrant, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a warrant may, without the consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action its right to exercise, and receive the securities purchasable upon exercise of, its warrants.

Governing Law

Unless we otherwise specify in the applicable prospectus supplement, the warrants and any warrant agreements will be governed by and construed in accordance with the laws of the State of New York.

DESCRIPTION OF UNITS

Units

We may issue units consisting of any combination of our common stock, preferred stock and warrants. We will issue each unit so that the holder of the unit is also the holder of each security included in the unit. As a result, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date.

The summary below and that contained in any prospectus supplement is qualified in its entirety by reference to all of the provisions of the unit agreement and/or unit certificate, and depositary arrangements, if applicable. We urge you to read the applicable prospectus supplements and any related free writing prospectuses related to the units that we may offer under this prospectus, as well as the complete unit agreement and/or unit certificate, and depositary arrangements, as applicable, that contain the terms of the units.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of unit agreement and/or unit certificate, and depositary arrangements, as applicable, that contain the terms of the particular series of units we are offering, and any supplemental agreements, before the issuance of such units.

The applicable prospectus supplement, information incorporated by reference or free writing prospectus may describe:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions for the issuance, payment, settlement, transfer, or exchange of the units or of the securities composing the units;
- whether the units will be issued in fully registered or global form; and
- any other terms of the units.

The applicable provisions described in this section, as well as those described under [Description of Our Capital Stock Common Stock](#), [Description of Our Capital Stock Preferred Stock](#) and [Description of Warrants](#) above, will apply to each unit and to each security included in each unit, respectively.

LEGAL OWNERSHIP OF SECURITIES

We can issue securities in registered form or in the form of one or more global securities. We describe global securities in greater detail below. We refer to those persons who have securities registered in their own names on the books that we or any applicable trustee, depositary or warrant agent maintain for this purpose as the holders of those securities. These persons are the legal holders of the securities. We refer to those persons who, indirectly through others, own beneficial interests in securities that are not registered in their own names, as indirect holders of those securities. As we discuss below, indirect holders are not legal holders, and investors in securities issued in book-entry form or in street name will be indirect holders.

Book-Entry Holders

We may issue securities in book-entry form only, as we will specify in any applicable prospectus supplement. This means securities may be represented by one or more global securities registered in the name of a financial institution that holds them as depositary on behalf of other financial institutions that participate in the depositary's book-entry system. These participating institutions, which are referred to as participants, in turn, hold beneficial interests in the securities on behalf of themselves or their customers.

Only the person in whose name a security is registered is recognized as the holder of that security. Securities issued in global form will be registered in the name of the depositary or its participants. Consequently, for securities issued in global form, we will recognize only the depositary as the holder of the securities, and we will make all payments on the securities to the depositary. The depositary passes along the payments it receives to its participants, which in turn pass the payments along to their customers who are the beneficial owners. The depositary and its participants do so under agreements they have made with one another or with their customers; they are not obligated to do so under the terms of the securities.

As a result, investors in a global security will not own securities directly. Instead, they will own beneficial interests in a global security, through a bank, broker or other financial institution that participates in the depositary's book-entry system or holds an interest through a participant. As long as the securities are issued in global form, investors will be indirect holders, and not legal holders, of the securities.

Street Name Holders

We may terminate a global security or issue securities in non-global form. In these cases, investors may choose to hold their securities in their own names or in street name. Securities held by an investor in street name would be

registered in the name of a bank, broker or other financial institution that the investor chooses, and the investor would hold only a beneficial interest in those securities through an account he or she maintains at that institution.

For securities held in street name, we or any applicable trustee or depositary will recognize only the intermediary banks, brokers and other financial institutions in whose names the securities are registered as the holders of those securities, and we or any applicable trustee or depositary will make all payments on those securities to them. These institutions pass along the payments they receive to their customers who are the beneficial owners, but only because they agree to do so in their customer agreements or because they are legally required to do so. Investors who hold securities in street name will be indirect holders, not holders, of those securities.

Legal Holders

Our obligations, as well as the obligations of any applicable trustee and of any third parties employed by us or a trustee, run only to the legal holders of the securities. We do not have obligations to investors who hold beneficial interests in global securities, in street name or by any other indirect means. This will be the case whether an investor chooses to be an indirect holder of a security or has no choice because we are issuing the securities only in global form.

For example, once we make a payment or give a notice to the legal holder, we have no further responsibility for the payment or notice even if that legal holder is required, under agreements with its participants or customers or by law, to pass it along to the indirect holders but does not do so. Similarly, we may want to obtain the approval of the legal holders to amend an indenture, to relieve us of the consequences of a default or of our obligation to comply with a particular provision of the indenture or for other purposes. In such an event, we would seek approval only from the holders, and not the indirect holders, of the securities. Whether and how the legal holders contact the indirect holders is up to the legal holders.



Special Considerations for Indirect Holders

If you hold securities through a bank, broker or other financial institution, either in book-entry form because the securities are represented by one or more global securities or in street name, you should check with your own institution to find out:

- how it handles securities payments and notices;
- whether it imposes fees or charges;
- how it would handle a request for the holders' consent, if ever required;
- whether and how you can instruct it to send you securities registered in your own name so you can be a holder, if that is permitted in the future;
- how it would exercise rights under the securities if there were a default or other event triggering the need for holders to act to protect their interests; and
- if the securities are in book-entry form, how the depositary's rules and procedures will affect these matters.

Global Securities

A global security is a security that represents one or any other number of individual securities held by a depositary. Generally, all securities represented by the same global securities will have the same terms.

Each security issued in book-entry form will be represented by a global security that we issue to, deposit with and register in the name of a financial institution or its nominee that we select. The financial institution that we select for this purpose is called the depositary. Unless we specify otherwise in any applicable prospectus supplement, DTC will be the depositary for all securities issued in book-entry form.

A global security may not be transferred to or registered in the name of anyone other than the depositary, its nominee or a successor depositary, unless special termination situations arise. We describe those situations below under **Special Situations When a Global Security Will Be Terminated**. As a result of these arrangements, the depositary, or its nominee, will be the sole registered owner and legal holder of all securities represented by a global security, and investors will be permitted to own only beneficial interests in a global security. Beneficial interests must be held by means of an account with a broker, bank or other financial institution that in turn has an account with the depositary or with another institution that does. Thus, an investor whose security is represented by a global security will not be a legal holder of the security, but only an indirect holder of a beneficial interest in the global security.

If the prospectus supplement for a particular security indicates that the security will be issued in global form only, then the security will be represented by a global security at all times unless and until the global security is terminated. If termination occurs, we may issue the securities through another book-entry clearing system or decide that the securities may no longer be held through any book-entry clearing system.

Special Considerations for Global Securities

The rights of an indirect holder relating to a global security will be governed by the account rules of the investor's financial institution and of the depository, as well as general laws relating to securities transfers. We do not recognize an indirect holder as a holder of securities and instead deal only with the depository that holds the global security.

If securities are issued only in the form of a global security, an investor should be aware of the following:

- an investor cannot cause the securities to be registered in his or her name, and cannot obtain non-global certificates for his or her interest in the securities, except in the special situations we describe below;
- an investor will be an indirect holder and must look to his or her own bank, broker or other financial institution for payments on the securities and protection of his or her legal rights relating to the securities, as we describe above;
- an investor may not be able to sell interests in the securities to some insurance companies and to other institutions that are required by law to own their securities in non-book-entry form;
- an investor may not be able to pledge his or her interest in a global security in circumstances where certificates representing the securities must be delivered to the lender or other beneficiary of the pledge in order for the pledge to be effective;
- the depository's policies, which may change from time to time, will govern payments, transfers, exchanges and other matters relating to an investor's interest in a global security;
- we and any applicable trustee have no responsibility for any aspect of the depository's actions or for its records of ownership interests in a global security, nor do we or any applicable trustee supervise the depository in any way;



- the depositary may, and we understand that DTC will, require that those who purchase and sell interests in a global security within its book-entry system use immediately available funds, and your bank, broker or other financial institution may require you to do so as well; and
- financial institutions that participate in the depositary's book-entry system, and through which an investor holds its interest in a global security, may also have their own policies affecting payments, notices and other matters relating to the securities.

There may be more than one financial intermediary in the chain of ownership for an investor. We do not monitor and are not responsible for the actions of any of those intermediaries.

Special Situations When a Global Security Will Be Terminated

In a few special situations described below, the global security will terminate and interests in it will be exchanged for physical certificates representing those interests. After that exchange, the choice of whether to hold securities directly or in street name will be up to the investor. Investors must consult their own banks, brokers or other financial institutions to find out how to have their interests in securities transferred to their own name, so that they will be direct holders. We have described the rights of holders and street name investors above.

Unless we provide otherwise in any applicable prospectus supplement, the global security will terminate when the following special situations occur:

- if the depositary notifies us that it is unwilling, unable or no longer qualified to continue as depositary for that global security and we do not appoint another institution to act as depositary within 90 days;
- if we notify any applicable trustee that we wish to terminate that global security; or
- if an event of default has occurred with regard to securities represented by that global security and has not been cured or waived.

The prospectus supplement may also list additional situations for terminating a global security that would apply only to the particular series of securities covered by any applicable prospectus supplement. When a global security terminates, the depositary, and not we or any applicable trustee, is responsible for deciding the names of the institutions that will be the initial direct holders.

PLAN OF DISTRIBUTION

We may sell the securities from time to time pursuant to underwritten public offerings, negotiated transactions, block trades or a combination of these methods or through underwriters or dealers, through agents and/or directly to one or more purchasers. The securities may be distributed from time to time in one or more transactions:

- at a fixed price or prices, which may be changed;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices; or
- at negotiated prices.

Each time that we sell securities covered by this prospectus, we will provide a prospectus supplement or supplements that will describe the method of distribution and set forth the terms and conditions of the offering of such securities, including the offering price of the securities and the proceeds to us, if applicable.

Offers to purchase the securities being offered by this prospectus may be solicited directly. Agents may also be designated to solicit offers to purchase the securities from time to time. Any agent involved in the offer or sale of our securities will be identified in a prospectus supplement.

If a dealer is utilized in the sale of the securities being offered by this prospectus, the securities will be sold to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale.

If an underwriter is utilized in the sale of the securities being offered by this prospectus, an underwriting agreement will be executed with the underwriter at the time of sale and the name of any underwriter will be provided in the prospectus supplement that the underwriter will use to make resales of the securities to the public. In connection with the sale of the securities, we, or the purchasers of securities for whom the underwriter may act as agent, may compensate the underwriter in the form of underwriting discounts or commissions. The underwriter may sell the securities to or through dealers, and those dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters and/or commissions from the purchasers for which they may act as agent. Unless otherwise indicated in a prospectus supplement, an agent will be acting on a best efforts basis and a dealer will purchase securities as a principal, and may then resell the securities at varying prices to be determined by the dealer.

Any compensation paid to underwriters, dealers or agents in connection with the offering of the securities, and any discounts, concessions or commissions allowed by underwriters to participating dealers will be provided in the applicable prospectus supplement. Underwriters, dealers and agents participating in the distribution of the securities may be deemed to be underwriters within the meaning of the Securities Act, and any discounts and commissions received by them and any profit realized by them on resale of the securities may be deemed to be underwriting

discounts and commissions. We may enter into agreements to indemnify underwriters, dealers and agents against civil liabilities, including liabilities under the Securities Act, or to contribute to payments they may be required to make in respect thereof and to reimburse those persons for certain expenses.

Any common stock will be listed on the NASDAQ Capital Market, but any other securities may or may not be listed on a national securities exchange. To facilitate the offering of securities, certain persons participating in the offering may engage in transactions that stabilize, maintain or otherwise affect the price of the securities. This may include over-allotments or short sales of the securities, which involve the sale by persons participating in the offering of more securities than were sold to them. In these circumstances, these persons would cover such over-allotments or short positions by making purchases in the open market or by exercising their over-allotment option, if any. In addition, these persons may stabilize or maintain the price of the securities by bidding for or purchasing securities in the open market or by imposing penalty bids, whereby selling concessions allowed to dealers participating in the offering may be reclaimed if securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. These transactions may be discontinued at any time.

If indicated in the applicable prospectus supplement, underwriters or other persons acting as agents may be authorized to solicit offers by institutions or other suitable purchasers to purchase the securities at the public offering price set forth in the prospectus supplement, pursuant to delayed delivery contracts providing for payment and delivery on the date or dates stated in the prospectus supplement. These purchasers may include, among others, commercial and savings banks, insurance companies, pension funds, investment companies and educational and charitable institutions. Delayed delivery contracts will be subject to the condition that the purchase of the securities covered by the delayed delivery contracts will not at the time of delivery be prohibited under the laws of any jurisdiction in the United States to which the purchaser is subject. The underwriters and agents will not have any responsibility with respect to the validity or performance of these contracts.

We may engage in at the market offerings into an existing trading market in accordance with Rule 415 under the Securities Act. In addition, we may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement so indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and, if not identified in this prospectus, will be named in the applicable prospectus supplement (or a post-effective amendment). In addition, we may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus and an applicable prospectus supplement. Such financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

The specific terms of any lock-up provisions in respect of any given offering will be described in the applicable prospectus supplement.

The underwriters, dealers and agents may engage in transactions with us, or perform services for us, in the ordinary course of business for which they receive compensation.

LEGAL MATTERS

Gracin & Marlow, LLP, New York, New York will pass upon certain legal matters relating to the issuance and sale of the common stock, preferred stock, warrants and units offered hereby on behalf of Heat Biologics, Inc. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement.

EXPERTS

The consolidated financial statements as of December 31, 2016 and December 31, 2015 and for each of the two years in the period ended December 31, 2016 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, given on the authority of said firm as experts in auditing and accounting. The report contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

The financial statements of Pelican Therapeutics, Inc. as of December 31, 2016 and 2015 and for the years then ended, included in our current report on Form 8-K/A filed on July 11, 2017, 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 auditor, given on the authority of said firm as experts in accounting and auditing. The report contains an explanatory paragraph regarding Pelican's ability to continue as a going concern.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and special reports, proxy statements and other information with the Securities and Exchange Commission. You may read and copy any document we file at the SEC's public reference room located at 100 F Street N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference room. Our public filings are also available to the public at the SEC's web site at www.sec.gov.

This prospectus is part of a registration statement on Form S-3 that we have filed with the SEC under the Securities Act. This prospectus does not contain all of the information in the registration statement. We have omitted certain parts of the registration statement, as permitted by the rules and regulations of the SEC. You may inspect and copy the registration statement, including exhibits, at the SEC's public reference room or Internet site.

Additional information about Heat Biologics, Inc. is contained at our website, www.heatbiologics.com. Information on our website is not incorporated by reference into this report. We make available on our website our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K 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 certain information that we will file with it which means that we can disclose important information to you by referring you to those documents instead of having to repeat the information in this prospectus. The information incorporated by reference is considered to be part of this prospectus, and the later information that we file with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made with the SEC; however, we will not incorporate by reference any documents or portions thereof that are not deemed filed with the SEC, or any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K:

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2016 (File No. 001-35994) filed with the SEC on March 31, 2017;
- Our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2017 and June 30, 2017 (File No. 001-35994) filed with the SEC on May 11, 2017 and August 14, 2017, respectively, and our Quarterly Report on Form 10-Q/A (Amendment No. 1) for the quarter ended June 30, 2017 (File No. 001-35994) filed with the SEC on September 15, 2017;
- Our Current Reports on Form 8-K (File No. 001-35994) filed with the SEC on January 4, 2017, February 3, 2017, March 8, 2017, March 13, 2017, March 16, 2017, March 21, 2017, March 24, 2017, April 7, 2017, May 3, 2017, May 31, 2017, June 30, 2017, Form 8-K/A filed on July 11, 2017, Form 8 K/A filed July 17, 2017, September 12, 2017, September 14, 2017, September 15, 2017, September 27, 2017, September 28, 2017, October 16, 2017, October 23, 2017, and October 27, 2017;
- Our Definitive Proxy Statement on Schedule 14A filed with the SEC on May 11, 2017;
- The description of our common stock set forth in our registration statement on Form 8-A12B, filed with the SEC on July 8, 2013 (File No. 001-35994); and

- All documents filed by us with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act (File No. 001-35994) after the date of this prospectus and before the completion of the offerings of the shares of our common stock included in this prospectus.

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.

801 Capitola Drive, Suite 12
Durham, North Carolina 27713

(919) 240-7133

Any statement contained in this registration statement or in a document incorporated or deemed to be incorporated by reference in this registration statement shall be deemed to be modified or superseded for purposes of this registration statement to the extent that a statement contained in this registration statement or in any other subsequently filed document which also is or is deemed to be incorporated by reference in this registration statement 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 registration statement.

Common Stock

Prospectus Supplement

B. Riley FBR

April 3, 2019