

PROSPECTUS SUPPLEMENT
(To the Prospectus dated May 4, 2020)



Up to \$100,000,000 of Shares
of Common Stock

We have entered into an At Market Issuance Sales Agreement, dated April 3, 2019, as amended on April 23, 2020, or the sales agreement, with B. Riley FBR, Inc., or B. Riley FBR, pursuant to which we may offer and sell shares of our common stock from time to time through or to B. Riley FBR, acting as sales agent or principal. As of July 23, 2020, we have issued and sold an aggregate of 50,179,390 shares of our common stock for aggregate gross proceeds of approximately \$49,902,377 pursuant to the sales agreement under Registration Statement No. 333-237808, utilizing a prior prospectus dated May 4, 2020 or the prospectus. Pursuant to this prospectus supplement or the prospectus supplement we may offer and sell shares of our common stock having an aggregate offering price of up to \$100,000,000 from time to time through or to B. Riley FBR acting as sales agent or principal.

Our common stock is listed on the NASDAQ Capital Market under the symbol "HTBX." On July 23, 2020, the last reported sale price of our common stock on the NASDAQ Capital Market was \$2.74 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.

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-8 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 July 27, 2020

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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 \$150,000,000 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 \$100,000,000 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 supplement, the accompanying base 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, the accompanying base prospectus and under similar headings in the other documents that are incorporated by reference into this prospectus supplement. 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, the accompanying base prospectus 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 pre-clinical and 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, the accompanying base prospectus 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;
- the impact of the COVID-19 pandemic on our business and operations; and
- potential product liability or intellectual property infringement claims.

Please consider our forward-looking statements in light of those risks as you read this prospectus supplement, the accompanying base prospectus and the documents incorporated by reference into this prospectus supplement. 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 is accurate as of any date other than as of the date of this prospectus supplement 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 and the documents incorporated by reference into this prospectus supplement that could cause actual results to differ.

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-8, the accompanying base prospectus and other documents or information included or incorporated by reference in this prospectus supplement and the accompanying base prospectus before making an investment decision. Except where the context requires otherwise, in this prospectus supplement the terms "Company," "Heat," "we," "us" and "our" refer to Heat Biologics, Inc., a Delaware corporation.

Overview

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

These programs are designed to harness the body's natural antigen specific immune activation and tolerance mechanisms to reprogram immunity and provide a long-term, durable clinical effect. We have completed recruiting patients in our Phase 2 HS-110 non-small cell lung cancer (NSCLC) trial, have dosed our first patient in our first Phase 1 clinical trial of HS-130 and have dosed our first patient in our Phase 1 trial of Pelican's PTX-35 monoclonal antibody.

General Corporate Information

We were incorporated under the laws of the State of Delaware on June 10, 2008. Our principal offices are located at 627 Davis Drive, Suite 400, Morrisville, North Carolina. Our website address is www.heatbio.com. We make our periodic and current reports that are filed with the 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 supplement.

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 \$100,000,000.
Common stock to be outstanding after the offering	Up to 170,643,342 shares (as more fully described in the notes following this table), assuming sales of \$100,000,000 of shares of our common stock, or 36,496,350 shares of our common stock in this offering at an offering price of \$2.74 per share, which was the approximate last reported sale price of our common stock on the Nasdaq Capital Market on July 23, 2020. 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 or to B. Riley FBR, as sales agent or principal. See the section entitled “ Plan of Distribution ” on page S-15 of this prospectus.
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

(1) Unless we indicate otherwise, all information in this prospectus supplement is based on 134,146,992 shares outstanding as of July 23, 2020. The number of shares outstanding as used throughout this prospectus supplement, unless otherwise indicated, excludes:

- 5,592,436 shares of our common stock issuable upon the exercise of outstanding stock options with a weighted average exercise price of \$1.65 per share;
- 5,712,564 additional shares of our common stock issuable upon the exercise of outstanding warrants at a weighted average exercise price of \$2.05 per share; and
- 2,310,884 additional shares of our common stock reserved for future issuance under our equity incentive plans as of July 23, 2020.

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, 2019, any subsequent Annual Reports on Form 10-K, our Current Report on Form 10-Q for the quarter ended March 31, 2020, 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 documents incorporated by reference into this prospectus supplement 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

Global health crises may adversely affect our planned operations.

Our business and the business of the supplier of our clinical product candidate and the suppliers of the standard of care drugs that are administered in combination with our clinical product candidate could be materially and adversely affected by the risks, or the public perception of the risks, related to a pandemic or other health crisis, such as the recent outbreak of novel coronavirus (COVID-19). A significant outbreak of contagious diseases in the human population could result in a widespread health crisis that could adversely affect our planned operations. Such events could result in the complete or partial closure of one or more manufacturing facilities which could impact our supply of our clinical product candidate or the standard of care drugs that are administered in combination with our clinical product candidate. In addition, an outbreak near where our clinical trial sites are located would likely impact our ability to recruit patients, delay our clinical trials, and could affect our ability to complete our clinical trials within the planned time periods. In addition, it could impact economies and financial markets, resulting in an economic downturn that could impact our ability to raise capital or slow down potential partnering relationships.

Coronavirus could adversely impact our business, including our clinical trials.

In December 2019, a novel strain of coronavirus, COVID-19, was reported to have surfaced in Wuhan, China. Since then, the COVID-19 coronavirus has spread to multiple countries, including the United States and European and Asia-Pacific countries, including countries in which we have planned or active clinical trial sites. As the COVID-19 coronavirus continues to spread around the globe, we will likely experience disruptions that could severely impact our business and clinical trials, including:

- delays or difficulties in enrolling patients in our clinical trials;
- delays or difficulties in clinical site initiation, including difficulties in recruiting clinical site investigators and clinical site staff;
- diversion of healthcare resources away from the conduct of clinical trials, including the diversion of hospitals serving as our clinical trial sites and hospital staff supporting the conduct of our clinical trials;
- interruption of key clinical trial activities, such as clinical trial site monitoring, due to limitations on travel imposed or recommended by federal or state governments, employers and others;
- limitations in employee resources that would otherwise be focused on the conduct of our clinical trials, including because of sickness of employees or their families or the desire of employees to avoid contact with large groups of people;
- delays in receiving approval from local regulatory authorities to initiate our planned clinical trials;
- delays in clinical sites receiving the supplies and materials needed to conduct our clinical trials;
- interruption in global shipping that may affect the transport of clinical trial materials, such as investigational drug product used in our clinical trials;
- changes in local regulations as part of a response to the COVID-19 coronavirus outbreak which may require us to change the ways in which our clinical trials are conducted, which may result in unexpected costs, or to discontinue the clinical trials altogether;

- delays in necessary interactions with local regulators, ethics committees and other important agencies and contractors due to limitations in employee resources or forced furlough of government employees;
- delay in the timing of interactions with the FDA due to absenteeism by federal employees or by the diversion of their efforts and attention to approval of other therapeutics or other activities related to COVID-19; and
- refusal of the FDA to accept data from clinical trials in affected geographies outside the United States.

In addition, the outbreak of the COVID-19 coronavirus could disrupt our operations due to absenteeism by infected or ill members of management or other employees, or absenteeism by members of management and other employees who elect not to come to work due to the illness affecting others in our office or laboratory facilities, or due to quarantines. COVID-19 illness could also impact members of our Board of Directors resulting in absenteeism from meetings of the directors or committees of directors, and making it more difficult to convene the quorums of the full Board of Directors or its committees needed to conduct meetings for the management of our affairs.

The global outbreak of the COVID-19 coronavirus continues to rapidly evolve. The extent to which the COVID-19 coronavirus may impact our business and clinical trials will depend on future developments, which are highly uncertain and cannot be predicted with confidence, such as the ultimate geographic spread of the disease, the duration of the outbreak, travel restrictions and social distancing in the United States and other countries, business closures or business disruptions and the effectiveness of actions taken in the United States and other countries to contain and treat the disease.

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 36,496,350 shares of our common stock are sold at a price of \$2.74 per share, the approximate last reported sale price of our common stock on the Nasdaq Capital Market on July 23, 2020, for aggregate gross proceeds of approximately \$100,000,000 and after deducting commissions and estimated offering expenses payable by us, new investors in this offering will incur immediate dilution of \$1.76 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 (the "Certificate of Incorporation"), authorizes the issuance of 250,000,000 shares of our common stock and 10,000,000 shares of preferred stock. In certain circumstances, shares of our 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 our common stock and preferred 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 documents incorporated by reference into this prospectus supplement 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 documents incorporated by reference into this prospectus supplement 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.

Our failure to meet the continued listing requirements of The Nasdaq Capital Market could result in a de-listing of our common stock.

Our shares of common stock are currently listed on The Nasdaq Capital Market. If we fail to satisfy the continued listing requirements of The Nasdaq Capital Market, such as the corporate governance requirements, minimum bid price requirement or the minimum stockholder's equity requirement, The Nasdaq Capital Market may take steps to de-list our common stock. Any de-listing would likely have a negative effect on the price of our common stock and would impair stockholders' ability to sell or purchase their common stock when they wish to do so. In the past we have received notices from the Listing Qualifications Department of Nasdaq Stock Market LLC ("Nasdaq") that we failed to comply with the stockholder's equity requirements and the minimum closing bid requirements. On June 21, 2019, we received written notice from the Listing Qualifications Department of the Nasdaq Stock Market LLC notifying us that for the preceding 30 consecutive business days (May 9, 2019 through June 20, 2019), our common stock did not maintain a minimum closing bid price of \$1.00 per share ("Minimum Bid Price Requirement") as required by Nasdaq Listing Rule 5550(a)(2). The notice has no immediate effect on the listing or trading of our common stock which will continue to trade on The Nasdaq Stock Market under the symbol "HTBX". In accordance with Nasdaq Listing Rule 5810(c)(3)(A), we initially had a compliance period of 180 calendar days, or until December 18, 2019, to regain compliance with Nasdaq Listing Rule 5550(a)(2), which compliance period had been extended to June 15, 2020. On April 16, 2020, Nasdaq extended the bid price compliance requirement to August 31, 2020 due to extraordinary market conditions. On July 24, 2020, we received written notice from The Nasdaq Capital Market that from July 10, 2020 through July 23, 2020, the closing bid price of our common stock has been at \$1.00 per share or greater and accordingly we had regained compliance with Nasdaq Listing Rule 5550(a)(2) and the matter was now closed. There can be no assurance given that we will be able to satisfy our continued listing requirements and maintain the listing of our common stock on The Nasdaq Capital Market going forward.

USE OF PROCEEDS

We may issue and sell shares of our common stock having aggregate gross proceeds of up to \$100,000,000 from time to time under this prospectus supplement, the accompanying base prospectus and the documents incorporated by reference into this prospectus supplement and the 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.

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.

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 March 31, 2020, our net tangible book value was approximately \$19.2 million, or approximately \$0.24 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.

Pro forma net tangible book value per share represents the amount of our total tangible assets as adjusted to take into account: net cash proceeds of approximately \$50.7 million from the issuance of an additional 53,954,043 shares of our common stock in "at-the-market" offerings subsequent to March 31, 2020. After giving effect to these transactions, our pro forma net tangible book value per share as of March 31, 2020 would have been approximately \$0.52 per share.

After giving effect to the foregoing transactions and the sale of 36,496,350 shares of our common stock in this offering in the aggregate amount of approximately \$100 million at an assumed offering price of \$2.74 per share, which is the approximate last reported sale price of our common stock on the Nasdaq Capital Market on July 23, 2020, 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 March 31, 2020 would have been approximately \$167.2 million, or \$0.98 per share of common stock. This represents an immediate increase in pro forma as adjusted net tangible book value of \$0.46 per share to existing stockholders and an immediate dilution of \$1.76 per share to new investors purchasing securities in this offering. The following table illustrates this per share dilution:

Assumed public offering price per share		\$	2.74
Pro forma net tangible book value per share as of March 31, 2020	\$	0.52	
Increase in pro forma net tangible book value per share attributable to new investors in this offering	\$	0.46	
Pro forma as adjusted net tangible book value per share after giving effect to this offering		\$	0.98
Dilution per share to new investors purchasing common stock in this offering		\$	1.76

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.

PLAN OF DISTRIBUTION

On April 3, 2019, we entered into an At Market Issuance Sales Agreement, as amended by Amendment No. 1 thereto dated April 23, 2020, or the sales agreement, with B. Riley FBR, under which we may issue and sell our common stock from time to time through or to B. Riley FBR acting as sales agent or principal, 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. As of July 23, 2020, we have issued and sold an aggregate of 50,179,390 shares of our common stock for aggregate gross proceeds of approximately \$49,902,377 pursuant to the sales agreement under Registration Statement No. 333-237808, utilizing a prior prospectus dated May 4, 2020.

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 \$300,000.

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 have in the past and 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. Copies of the sales agreement (including Amendment No. 1 thereto) have been filed as Exhibits 1.1 and 1.2 to the registration statement of which this prospectus supplement forms a part.

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 consolidated financial statements as of December 31, 2019 and 2018, and for the years then ended, incorporated by reference in this prospectus supplement, the accompanying base prospectus and the registration statement have been so incorporated in reliance on the report of BDO USA, LLP, an independent registered public accounting firm, incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting. The report contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

WHERE YOU CAN FIND MORE INFORMATION

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

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

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" information into this prospectus supplement, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The SEC file number for the documents incorporated by reference in this prospectus supplement is Commission File No. 001-35994. The documents incorporated by reference into this prospectus supplement contain important information that you should read about us.

The following documents are incorporated by reference into this prospectus supplement:

- Our Annual Report on [Form 10-K](#) for the year ended December 31, 2019 (Commission File No. 001-35994) filed with the SEC on March 30, 2020;
- Our Quarterly Report on [Form 10-Q](#) for the quarter ended March 31, 2020 (Commission File No. 001-35994) filed with the SEC on May 15, 2020;
- Our Current Reports on Form 8-K (Commission File No. 001-35994) filed with the SEC on [January 3, 2020](#), [January 21, 2020](#), [February 5, 2020](#), [February 21, 2020](#), [February 27, 2020](#), [March 2, 2020](#), [March 3, 2020](#), [March 5, 2020](#), [March 11, 2020](#), [March 13, 2020](#), [March 17, 2020](#), [March 23, 2020](#), [March 23, 2020](#), and [April 10, 2020](#), [April 23, 2020](#), [April 28, 2020](#), [April 29, 2020](#), [May 14, 2020](#), [May 29, 2020](#), [June 1, 2020](#), [June 8, 2020](#); [June 22, 2020](#); and [July 27, 2020](#);
- Our Definitive [Proxy Statement](#) on Schedule 14A filed with the SEC on July 27, 2020;
- The description of our common stock set forth in our registration statement on [Form 8-A](#) filed with the SEC on July 8, 2013 (Commission File No. 001-35994); and
- The description of our common stock purchase rights set forth in our registration statement on Form 8-A filed with the SEC on [March 12, 2018](#), Form 8-A/A (Amendment No. 1) filed on [March 13, 2019](#), Form 8-A/A (Amendment No. 2) filed with the SEC on [March 13, 2020](#) (Commission File No. 001-35994).

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

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

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

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

\$150,000,000



**Common Stock
Preferred Stock
Warrants
Units**

We may offer and sell up to \$150,000,000 in the aggregate of any combination 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 and any related free writing prospectus 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.

Our common stock is listed on the Nasdaq Capital Market under the symbol "HTBX." On April 20, 2020, the last reported sale price of our common stock on the Nasdaq Capital Market was \$0.60 per share.

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

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

The date of this prospectus is May 4, 2020



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

ABOUT THIS PROSPECTUS

This prospectus is 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 \$150,000,000 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.”

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

Neither we, nor any agent, underwriter or dealer has authorized any person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus, any applicable prospectus supplement or any related free writing prospectus prepared by or on behalf of us or to which we have referred you. This prospectus, any applicable supplement to this prospectus or any related free writing prospectus does not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they relate, nor does this prospectus, any applicable supplement to this prospectus or any related free writing prospectus constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction.

You should not assume that the information contained in this prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate on any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus, any applicable prospectus supplement or any related free writing prospectus is delivered, or securities are sold, on a later date.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the section entitled “Where You Can Find More Information.”

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 securities. Therefore, you should carefully read the entire prospectus, any prospectus supplement and any free writing prospectus that we have authorized for use in connection with this offering, including the "Risk Factors" section and other documents or information included or incorporated by reference in this prospectus and any prospectus supplement before making any investment decision.

Overview

We are a biopharmaceutical company engaged in the development of immunotherapies, vaccines and diagnostics. Our gp96 platform is designed to activate the immune system. This platform has broad applications in cancer and infectious disease. Our T-cell Activation Platform (TCAP), leverages gp96's role as a natural molecular warning system to secrete cancer antigens. TCAP includes two variations for intradermal administration, Immune Pan-antigen Cytotoxic Therapy (*ImPACT*®) and Combination Pan-antigen Cytotoxic Therapy (*ComPACT*™). HS-110 (viagenpumatucel-L) is our first allogeneic ("off-the-shelf") cell line biologic product candidate in a series of proprietary *ImPACT*® based immunotherapies designed to stimulate a patient's own T-cells to destroy cancer. HS-130 is an allogeneic cell line engineered to express the extracellular domain of OX40 ligand fusion protein (OX40L-Fc), a key costimulator of T-cells, with the potential to augment antigen-specific CD8+ T-cell response. We have initiated development of a new COVID-19 vaccine program that utilizes the gp96 platform to secrete SARS-CoV-2 antigens. In parallel, we are working to develop a COVID-19 point-of-care diagnostic test. Our subsidiary Pelican Therapeutics, Inc., is developing PTX-35, a novel T-cell co-stimulator agonist antibody targeting TNFRSF25 for systemic administration. These programs are designed to harness the body's natural antigen specific immune activation and tolerance mechanisms to reprogram immunity and provide a long-term, durable clinical effect. We have completed recruiting patients in our Phase 2 HS-110 non-small cell lung cancer (NSCLC) trial, have dosed our first patient in our first Phase 1 clinical trial of HS-130 and anticipate clearance by the U.S. Food & Drug Administration (FDA) of an IND for our PTX-35 program in the second quarter of 2020. We are also providing pre-clinical, CMC development, and administrative support for these operations; while constantly focusing on protecting and expanding our intellectual property in areas of strategic interest. As we advance our clinical programs, we are in close contact with our CROs and clinical sites and are assessing the impact of COVID-19 on our studies and current timelines and costs.

General Corporate Information

We were incorporated under the laws of the State of Delaware on June 10, 2008. Our principal offices are located at 627 Davis Drive, Suite 400, Morrisville, North Carolina. Our website address is www.heatbio.com. We make our periodic and current reports that are filed with the 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.

Risks Associated with our Business

Our business is subject to numerous risks, as described under the heading “Risk Factors” contained in the applicable prospectus supplement and in any free writing prospectuses we have authorized for use in connection with a specific offering, and under similar headings in the documents that are incorporated by reference into this prospectus.

The Securities We May Offer

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 \$150,000,000 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. 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.

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

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.

We currently do not have authority to issue shares of our preferred stock without further action by our stockholders. Under our Third Amended and Restated Certificate of Incorporation, as amended, our Board of Directors has the authority, with 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 an aggregate of 8,212,500 have been designated as follows: 112,500 shares have been designated Series 1 Preferred Stock, 2,000,000 shares have been designated Series A Preferred Stock, 4,100,000 have been designated as Series B-1 Preferred Stock and 2,000,000 have been designated Series B-2 Preferred Stock), 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 will require additional stockholder approval.

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

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

FORWARD-LOOKING STATEMENTS

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

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

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

USE OF PROCEEDS

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, to fund our milestone payment obligations under our license agreements and our stock purchase agreement with the prior stockholders of Pelican and to repurchase securities. 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.

DESCRIPTION OF OUR CAPITAL STOCK

General

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

We are authorized to issue 250,000,000 shares of common stock, par value \$0.0002 per share, of which 82,703,965 shares are outstanding as of April 20, 2020, and 10,000,000 shares of preferred stock, par value \$0.0001 per share, of which an aggregate of 8,212,500 shares have been designated as follows: 112,500 shares are designated Series 1 Preferred Stock, 2,000,000 shares are designated Series A Preferred Stock, 4,100,000 are designated as Series B-1 Preferred Stock and 2,000,000 are designated Series B-2 Preferred Stock. There are currently no shares of preferred stock outstanding.

Common Stock

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

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

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

The 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.

Options

As of April 20, 2020, awards for 7,580,775 shares of common stock were outstanding under our equity compensation plans comprised of: (i) options outstanding to purchase an aggregate of 5,555,560 shares of common stock, and (ii) restricted stock units outstanding underlying 2,025,215 shares of common stock. As of April 20, 2020, 2,347,760 shares of common stock were reserved for future issuance under our equity incentive plans.

Stockholder Rights Plan

On March 11, 2018, our board of directors declared a dividend of one Right for each outstanding share of our common stock, which was amended by Amendment No. 1 thereto on March 8, 2019 and by Amendment No. 2 thereto on March 10, 2020 to extend the expiration date of the stockholder's rights plan to March 11, 2021. The dividend was initially paid on March 23, 2018 (the "Record Date") to the stockholders of record at the close of business on that date. Each Right initially entitles the registered holder to purchase from us one share of common stock at a price of \$14.00 per share of common stock (the "Purchase Price"), subject to adjustment. The description and terms of the Rights are set forth in a Rights Agreement, dated as of March 11, 2018, as amended by Amendment No. 1 thereto dated March 8, 2019 and Amendment No. 2 thereto dated March 10, 2020, as the same may be further amended from time to time (the "Rights Agreement"), between the Company and Continental Stock Transfer & Trust Company, as Rights Agent (the "Rights Agent").

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

The Rights Agreement provides that, until the Distribution Date (or earlier expiration of the Rights), the Rights will be transferred with and only with the common stock. Until the Distribution Date (or earlier expiration of the Rights), new common stock certificates issued after the Record Date upon transfer or new issuances of common stock will contain a notation incorporating the Rights Agreement by reference. Until the Distribution Date (or earlier expiration of the Rights), the surrender for transfer of any certificates for shares of common stock (or book entry shares of common stock) outstanding as of the Record Date, even without such notation or a copy of the Summary of Rights, will also constitute the transfer of the Rights associated with the shares of common stock represented thereby. As soon as practicable following the Distribution Date, separate certificates evidencing the Rights ("Right Certificates") will be mailed to holders of record of the common stock as of the close of business on the Distribution Date and such separate Right Certificates alone will evidence the Rights.

The Rights are not exercisable until the Distribution Date. The Rights will expire at the close of business on March 11, 2021, unless the Rights are earlier redeemed or exchanged by the Company as described below.

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

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

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

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

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

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

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

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

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

Potential Anti-Takeover Effects

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

Proposals of business and nominations. Our bylaws generally regulate proposals of business and nominations for election of directors by stockholders. In general, Section 2.14 requires stockholders intending to submit proposals or nominations at a stockholders meeting to provide the Company with advance notice thereof, including information regarding the stockholder proposing the business or nomination as well as information regarding the proposed business or nominee. Section 2.13 provides a time period during which business or nominations must be provided to the Company that will create a predictable window for the submission of such notices, eliminating the risk that the Company finds a meeting will be contested after printing its proxy materials for an uncontested election and providing the Company with a reasonable opportunity to respond to nominations and proposals by stockholders.

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

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

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

While the foregoing provisions of our 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.

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

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

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

Delaware Takeover Statute

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

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

Listing of Common Stock

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

Transfer Agent

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

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

As of April 20, 2020, we had warrants outstanding to purchase an aggregate of 5,771,564 shares of our common stock that have a weighted average exercise price of \$2.04 and expire between March 10, 2021 and November 26, 2023.

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, depository 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 depository on behalf of other financial institutions that participate in the depository’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 depository or its participants. Consequently, for securities issued in global form, we will recognize only the depository as the holder of the securities, and we will make all payments on the securities to the depository. The depository 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 depository 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 depository’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 depository 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 depository 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 depositary, 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 depositary 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 depositary'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 depositary's actions or for its records of ownership interests in a global security, nor do we or any applicable trustee supervise the depositary 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. We may sell the securities to or through underwriters or dealers, through agents, or directly to one or more purchasers. We may distribute securities 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.

We may also sell equity securities covered by this registration statement in an “at the market” offering as defined in Rule 415(a)(4) under the Securities Act. Such offering may be made into an existing trading market for such securities in transactions at other than a fixed price on or through the facilities of the Nasdaq Capital Select or any other securities exchange or quotation or trading service on which such securities may be listed, quoted or traded at the time of sale.

Such at the market offerings, if any, may be conducted by underwriters acting as principal or agent.

A prospectus supplement or supplements (and any related free writing prospectus that we may authorize to be provided to you) will describe the terms of the offering of the securities, including, to the extent applicable:

- the name or names of any underwriters, dealers or agents, if any;
- the purchase price of the securities and the proceeds we will receive from the sale;
- any over-allotment options under which underwriters may purchase additional securities from us;
- any agency fees or underwriting discounts and other items constituting agents’ or underwriters’ compensation;
- any public offering price;
- any discounts or concessions allowed or reallocated or paid to dealers; and
- any securities exchange or market on which the securities may be listed.

Only underwriters named in the prospectus supplement are underwriters of the securities offered by the prospectus supplement.

If underwriters are used in the sale, they will acquire the securities for their own account and may resell the securities from time to time in one or more transactions at a fixed public offering price or at varying prices determined at the time of sale. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. We may offer the securities to the public through underwriting syndicates represented by managing underwriters or by underwriters without a syndicate. Subject to certain conditions, the underwriters will be obligated to purchase all of the securities offered by the prospectus supplement. Any public offering price and any discounts or concessions allowed or reallocated or paid to dealers may change from time to time. We may use underwriters with whom we have a material relationship. We will describe in the prospectus supplement, naming the underwriter, the nature of any such relationship.

We may sell securities directly or through agents we designate from time to time. We will name any agent involved in the offering and sale of securities, and we will describe any commissions we will pay the agent in the prospectus supplement. Unless the prospectus supplement states otherwise, our agent will act on a best-efforts basis for the period of its appointment.

We may authorize agents or underwriters to solicit offers by certain types of institutional investors to purchase securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. We will describe the conditions to these contracts and the commissions we must pay for solicitation of these contracts in the prospectus supplement.

We may provide agents and underwriters with indemnification against civil liabilities related to this offering, including liabilities under the Securities Act, or contribution with respect to payments that the agents or underwriters may make with respect to these liabilities. Agents and underwriters may engage in transactions with, or perform services for, us in the ordinary course of business.

All securities we offer, other than common stock, will be new issues of securities with no established trading market. Any underwriters may make a market in these securities, but will not be obligated to do so and may discontinue any market making at any time without notice. We cannot guarantee the liquidity of the trading markets for any securities.

Any underwriter may engage in overallotment, stabilizing transactions, short covering transactions and penalty bids. Overallotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Short covering transactions involve purchases of the securities in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a stabilizing or covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of the activities at any time. These transactions may be effected on any exchange or over-the-counter market or otherwise.

Any underwriters who are qualified market makers on the Nasdaq Capital Market may engage in passive market making transactions in the securities on the Nasdaq Capital Market in accordance with Rule 103 of Regulation M, during the business day prior to the pricing of the offering, before the commencement of offers or sales of the securities. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security; if all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded. Passive market making may stabilize the market price of the securities at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

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, 2019 and 2018, and for the years then ended, incorporated by reference in this prospectus and the registration statement have been so incorporated in reliance on the report of BDO USA, LLP, an independent registered public accounting firm, incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting. The report contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

WHERE YOU CAN FIND MORE INFORMATION

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

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

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

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

The following documents are incorporated by reference into this document:

- Our Annual Report on [Form 10-K](#) for the year ended December 31, 2019 (Commission File No. 001-35994) filed with the SEC on March 30, 2020;
- Our Current Reports on Form 8-K (Commission File No. 001-35994) filed with the SEC on [January 3, 2020](#), [January 21, 2020](#), [February 5, 2020](#), [February 21, 2020](#), [February 27, 2020](#), [March 2, 2020](#), [March 3, 2020](#), [March 5, 2020](#), [March 11, 2020](#), [March 13, 2020](#), [March 17, 2020](#), [March 23, 2020](#), [March 23, 2020](#), and [April 10, 2020](#);
- Our [Definitive Proxy Statement](#) on Schedule 14A filed with the SEC on January 24, 2020;
- The description of our common stock set forth in our registration statement on [Form 8-A](#) filed with the SEC on July 8, 2013 (Commission File No. 001-35994); and
- The description of our common stock purchase rights set forth in our registration statement on Form 8-A filed with the SEC on [March 12, 2018](#), Form 8-A/A (Amendment No. 1) filed on [March 13, 2019](#), Form 8-A/A (Amendment No. 2) filed with the SEC on [March 13, 2020](#) (Commission File No. 001-35994).

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

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

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

Any statement contained in this 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.



**Up to \$100,000,000
Common Stock**

Prospectus Supplement

B. Riley FBR

July 27, 2020
