



DIVISION OF
CORPORATION FINANCE

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

May 15, 2013

Via E-mail

Jeffrey Wolf
Chief Executive Officer and Chairman
Heat Biologics, Inc.
100 Europa Drive
Chapel Hill, NC 27517

**Re: Heat Biologics, Inc.
Registration Statement on Form S-1
Filed May 6, 2013
File No. 333-188365**

Dear Mr. Wolf:

We have reviewed your registration statement and letter submitted May 6, 2013, and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

General

1. Please note that when you file a pre-effective amendment containing pricing-related information, we may have additional comments. As you are likely aware, you must file this amendment prior to circulating the prospectus. Please note that when you file a pre-effective amendment that includes your price range, it must be bone fide. We interpret this to mean that your range may not exceed \$2 if you price up to \$10 and 20% if you price above \$10.

Prospectus Summary, page 1
Overview, page 1

2. Please revise your chart on page 2 to indicate for each of your product candidates other than HS-110 for NSCLC that the Phase of Development is preclinical.

Capitalization, page 30

3. Please revise the first sentence to state that the table sets forth your cash and cash equivalents as well as your capitalization.
4. Please revise your table to include parentheses around the \$516,749 total capitalization.

Management's Discussion and Analysis of Financial Condition
and Results of Operations, page 34

Critical Accounting Policies
Stock Based Compensation, page 35

5. In the previous amendment you disclosed that there were no material changes in factors impacting the common stock per share value from March 31, 2012 to November 30, 2012. Therefore please revise your disclosures to clarify the business conditions that changed and significant events that occurred that resulted in the change of the fair value of the options granted on November 8, 2012 from \$0.33 to \$0.97.

Results of Operations
For the Years Ended December 31, 2012 and 2011
Operating Expenses, page 40

6. Please refer to your response to comment 8. It appears that you have only included the costs incurred for lung cancer and ovarian cancer separately for the twelve months ended December 31, 2012. Therefore please revise your disclosures to include costs incurred for lung cancer and ovarian cancer separately for each period presented on the statement of operations including the costs incurred from inception to date.

License and Contractual Obligations, page 43

7. Please include your convertible notes payable and related interest in the table of contractual payments under your notes payable agreements.

Business, page 44

8. Your disclosure remains unclear with respect to the nature of your operations and expenditures and the overall relationship between you, the primary inventor of the technology that you license and grant funding. For example, you state on page 46 that "We have an ongoing advanced study in non-human primates with a therapeutic and prophylactic vaccine for the treatment and prevention of HIV," however on page 53 your disclosure makes clear that the HIV studies were fully funded by NIH with grants to the primary inventor, initiated and conducted by the primary inventor, you have no funding obligation for these trials and the primary inventor is responsible for future development

and research. Your disclosure, from the outset, should indicate how the use of “we” with respect to clinical trials and studies being conducted by the primary inventor is appropriate. To the extent that the terms of your license agreements with the University of Miami form the basis for this, please describe the terms and the mechanisms therein which translate trials, studies, grant funds and research expenses to the company. To the extent that it is appropriate to differentiate the company’s activities from the primary inventor’s activities, please do so. Please add corresponding disclosure to your prospectus summary. Further, in your response letter, please detail your additional disclosure and identify the page numbers where the additional responsive disclosure has been added.

9. We note your response to our prior comment 6 which in part indicated that the proceeds to be used for the Phase II trials for HS-110 in NSCLC may be used as grant matching funds to fund an expanded clinical trial if grant funding is secured. Please provide further disclosure of this nature on a general and specific basis to more fully describe your business model and relationship with the primary inventor with respect to all of your product candidates. In your response letter, please detail your additional disclosure and identify the page numbers where the additional responsive disclosure has been added.

Description of Securities, page 79

10. Please state in your description of the common stock and the preferred stock voting rights the threshold - majority, plurality, supermajority, etc. – by which directors may be elected and by which all other matters upon which common and/or preferred stockholders are entitled to vote shall be approved. Your disclosure should reflect your articles of incorporation and bylaws that will be in effect upon consummation of the offering.

Financial Statements, page F-1

11. Please provide interim financial statements for the quarterly period ended March 31, 2013 as well as updated disclosures.

Notes to Consolidated Financial Statements

2. Summary of Significant Accounting Policies

Revenue Recognition, page F-4

12. The wording of your accounting policy has changed back to the original wording in your first filing. Please refer to your response to comment 50 in your response letter dated February 12, 2013. Please revise your disclosure to clarify that the timing of submission to your funding sources does not impact your ability to recognize revenue on the grants.

8. License Agreements, page F-8

13. Please refer to your response to comment 19. Please expand your disclosures to include the aggregate amount of future potential milestone payments related to the license agreement with the University of Michigan disclosed on page 64 and the potential milestone payments related to the biological material license agreement with the ATCC disclosed on page 65.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Act of 1933 and all applicable Securities Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

Jeffrey Wolf
Heat Biologics, Inc.
May 15, 2013
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You may contact Vanessa Robertson, Staff Accountant, at (202) 551-3649 or Joel Parker, Accounting Branch Chief, at (202) 551-3651 if you have questions regarding comments on the financial statements and related matters. Please contact Karen Ubell, Staff Attorney, at (202) 551-3873, John Krug, Staff Attorney, at (202) 551-3862 or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ Daniel Greenspan for

Jeffrey P. Riedler
Assistant Director

cc: Via E-mail
Leslie Marlow, Esq.
Gracin & Marlow, LLP