

GRACIN & MARLOW, LLP
405 Lexington Avenue, 26th Floor
New York, New York 10174
(212) 907-6457

June 10, 2013

VIA EDGAR

United States Securities
and Exchange Commission
100 F Street, NE
Mail Stop 4720
Washington, D.C. 20549
Attention: Jeffrey P. Riedler
Assistant Director

**Re: Heat Biologics, Inc.
 Registration Statement on Form S-1
 Filed May 30, 2013
 File No. 333-188365**

Dear Mr. Riedler:

Thank you for your June 7, 2013 letter regarding Heat Biologics, Inc. ("Heat"). In order to assist you in your review of Heat's Form S-1, we hereby submit a letter responding to the comments and Amendment No. 2 to Form S-1 marked to show changes. For your convenience, we have set forth below the staff's numbered comments in their entirety followed by our responses thereto.

Management's Discussion and Analysis of Financial Condition and Results of Operations
Critical Accounting Policies
Stock Based Compensation, page 37

1. Please refer to your response to comment 5. Please revise your disclosure to provide more details of why the progress of the HS-110 and HS-410 programs increased the fair value from March 31, 2012 to November 8, 2012 from a value of \$0.76 per share to \$2.23 per share.

Response: Complied with. We have revised the disclosure to provide the requested additional disclosure.

2. We acknowledge that the probability used for an IPO increased from 25 percent to fifty percent from the December 31, 2012 valuation to the March 31, 2013 valuation. We also note that the discount for marketability decreased from December 31, 2012 to March 31, 2013. Please revise your disclosure to provide additional details on the continued development that also contributed to the increase in fair value from \$2.23 to \$8.81.

Response: Complied with. We have revised the disclosure to provide the requested additional disclosures.

3. Please include additional disclosures to explain the increase in fair value from the March 31, 2013 valuation of \$8.81 to the estimated IPO price of \$11.00.

Response: Complied with. We have revised the disclosure to provide the requested additional disclosures.

Results of Operations
For the Three Months Ended March 31, 2013 and 2012
Operating Expenses, page 42

4. Please refer to your response to comment 6. Please disclose the total costs incurred for lung cancer and bladder cancer separately to date from the period you began tracking the costs separately for the projects through March 31, 2013.

Response: Complied with. We have added disclosure regarding the total costs incurred for lung cancer and bladder cancer separately to date from the period you began tracking the costs separately for the projects through March 31, 2013.

Notes to Consolidated Financial Statements
10. Stockholders' (Deficit) Equity
Preferred Stock, page F-21

5. Please disclose the conversion ratio for your preferred stock into common stock.

Response: Complied with. We have disclosed the conversion ratio.

6. Please provide us with an analysis as to why a beneficial conversion feature was not recorded for your Series B-1 preferred stock as it appears the conversion price is \$6.09 and the March 31, 2013 common stock valuation was \$8.81.

Response: The Company performed an analysis and determined that a beneficial conversion feature should have been recorded on the unaudited consolidated financial statements as of and for the three months ended March 31, 2013. Accordingly, the Company recorded a \$2.3 million beneficial conversion charge for the three months ended March 31, 2013 which was reflected as an adjustment to a loss available to common shareholders. The Company determined that a beneficial conversion feature for the Series B-1 Preferred Stock existed since the Series B-1 Preferred Stock equity security is convertible into common stock at a discount from the fair value of the common stock at the commitment date. The beneficial conversion charge was measured and recorded on the commitment date for the difference between the fair value of the Company's common stock and the effective conversion price of the Series B-1 Preferred Stock equity security. The amount allocated to the beneficial conversion feature was presented as an immediate charge to loss available to common shareholders since the Series B-1 Preferred Stock instruments are convertible by the shareholders at any time.

Exhibits

7. Please file Exhibit 10.13 in its entirety. It appears that Appendix B has not been filed.

Response: Please note that although the agreement refers to an Appendix B, Appendix B has yet to be negotiated as the Company has not yet engaged in full scale manufacturing and Appendix B is intended to be finalized after process development. Once process development is completed Appendix B will be finalized and the Company will refile the agreement with Appendix B attached.

We acknowledge that the adequacy and accuracy of the disclosure in our filings is our responsibility. We acknowledge that the staff comments or changes to disclosure do not foreclose the Commission from taking any action with respect to the filings. We acknowledge that the company may not assert staff comments as a defense in any proceedings initiated by the Commission or any person under the federal securities laws of the United States.

If you have any questions or need additional information, please contact the undersigned at (516) 496-2223 or (212) 907-6457.

Sincerely,

/s/ Leslie Marlow

Leslie Marlow
Partner