



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

DIVISION OF  
CORPORATION FINANCE

June 7, 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.  
Amendment No. 1 to Registration Statement on Form S-1  
Filed May 30, 2013  
File No. 333-188365**

Dear Mr. Wolf:

We have reviewed your amended registration statement and letter submitted May 30, 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.

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.
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.

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.

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.

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.
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.

Exhibits

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

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.

Jeffrey Wolf  
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June 7, 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