



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

DIVISION OF  
CORPORATION FINANCE

June 29, 2010

Mark E. Saad  
Chief Financial Officer  
Cytori Therapeutics, Inc.  
3020 Callan Road  
San Diego, California 92121

**Re: Cytori Therapeutics, Inc.  
Form 10-K for the fiscal year ended December 31, 2009  
Filed March 12, 2010  
File No. 000-32501**

Dear Mr. Saad:

We have reviewed your filing 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 within ten business days by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. 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 filing and the information you provide in response to these comments, we may have additional comments.

Item 10. Directors, Executive Officers and Corporate Governance, page 83

1. We refer to your disclosure under "Board of Directors Leadership Structure" on page 9 of the proxy statement that you have incorporated by reference to your Form 10-K. In future filings, please revise to indicate why you have determined that your leadership structure is appropriate given your specific characteristics or circumstances. See Regulation S-K Item 407(h). For example, it is unclear from your current disclosure why it currently is appropriate to separate the roles of your chief executive officer and chairman of the board, and what circumstances might require you to combine the two positions.
2. We note from your disclosure under "Criteria for Board Membership" on page 11 of your proxy that your governance and nominating committee seeks candidates for the board "with a broad diversity of experience, skills, professions, and backgrounds." In future filings, please describe how this policy is implemented, as well as how the committee assesses the effectiveness of its policy as required by Regulation S-K Item 407(c)(2)(vi).

Item 11. Executive Compensation, page 83

3. We note from page 17 of your definitive proxy statement that your compensation committee “utilizes several components of compensation...to strike an appropriate balance between proposing sustainable and excellent performance and discouraging any inappropriate short-sighted risk-taking behavior.” Please describe the process you undertook to reach the conclusion that disclosure pursuant to Regulation S-K Item 402(s) is not necessary.

Item 13. Certain Relationships and Related Transactions..., page 83

4. We refer to your disclosure under “Related Person Transactions” on page 14 of your proxy and note it does not discuss the transactions with the two related parties identified in note 17 to your financial statements. Please explain why you have not provided disclosure of these transactions pursuant to Regulation S-K Item 404(a). Please also tell us whether you entered into any transactions with any related person since the beginning of your last fiscal year, or whether you have any currently proposed transaction with such related person for which disclosure pursuant to Regulation S-K Item 404(a) is required.

Item 15. Exhibits, Financial Statement Schedules, page 84

5. It appears that you have not filed all related person agreements as exhibits as required by Item 601 of Regulation S-K. For example and without limitation, it does not appear that you have not filed the February 23, 2006 agreement in which you granted Olympus Corporation certain rights. Please file all such agreements, and list in your response all exhibits that will be 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 Exchange Act of 1934 and all applicable Exchange 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.

In responding to our comments, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Mark E. Saad  
Cytori Therapeutics, Inc.  
June 29, 2010  
Page 3

Please contact Celia Soehner at (202) 551-3463 or me at (202) 551-3637 with any questions.

Sincerely,

Jay Mumford  
Senior Attorney