



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 3030

November 26, 2008

VIA U.S. MAIL and FACSIMILE (858) 450-4355

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

**RE: Cytori Therapeutics, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2007
Filed March 14, 2008
Form 10-Qs for the Quarterly Periods Ended March 31, June 30, and
September 30, 2008
File No. 000-32501**

Dear Mr. Saad:

We have reviewed your filing and have the following comments. We have limited our review of your filing to only your financial statements and related disclosures and do not intend to expand our review to other portions of your documents. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for the Fiscal Year Ended December 31, 2007

Item 1. Financial Statements

Note 4. Transactions with Olympus Corporation - Condensed Financial Information for the Joint Venture, page 68

1. We see that you have a 50% interest in the Olympus-Cytori joint venture. Please tell us and revise future filings to disclose the components of equity loss from investment in joint venture. Tell us why the equity loss is not equal to 50% of the net loss of the joint venture.
2. As a related matter, please tell us how you considered whether the joint venture is a significant unconsolidated subsidiary for which you should file separate financial statements under Rule 3-09 of Regulation S-X.

Note 5. Gain on Sale of Assets, page 68

3. We see that in May 2007 you sold your intellectual property rights and tangible assets related to the spine and orthopedic bioresorbable implant product line. Please tell us how you considered whether you should record the disposition as discontinued operations, in accordance with SFAS 144. Please reference paragraphs 41 – 43 of the SFAS.

Exhibits 31.1. and 31.2

4. We note that you omitted the language in paragraph 4 of Item 601(b)(31)(i) of Regulation S-K that refers to internal control over financial reporting. Please file an abbreviated amendment to the Form 10-K that includes a cover page, explanatory note, signature page and paragraphs 1, 2, 4 and 5 of the certification. Please note that you should also comply with any applicable futures comments in the abbreviated amendment.
5. We note that the identification of the certifying individual at the beginning of the certification required by Exchange Act Rule 13a-14(a) also includes the title of the certifying individual. We note that you deleted the phrase ‘(the registrant’s fourth fiscal quarter in the case of an annual report)’ in paragraph 4(c) of the certification. In future filings, the identification of the certifying individual at the beginning of the certification should be revised so as not to include the individual’s title and the wording in the certification should be consistent with Item 601(b)(31)(i) of Regulation S-K.

Form 10-Qs for the Quarterly Periods Ended March 31, June 30, and September 30, 2008

Note 6. Revenue Recognition, page 9

6. Please tell us and revise future filings to disclose the nature of the multiple elements that are included in product sales of your Celution 800/CRS System and how you apply EITF 00-21 to these arrangements. Please also discuss how you determine fair value of each element and the timing of revenue recognition for each element.

Exhibits 31.1. and 31.2

7. We note that you omitted the language in paragraph 4 of Item 601(b)(31)(i) of Regulation S-K that refers to internal control over financial reporting. Please file an abbreviated amendment to each Form 10-Q that includes a cover page, explanatory note, signature page and paragraphs 1, 2, 4 and 5 of the certification. Please note that you should also comply with any applicable futures comments in the abbreviated amendment.

As appropriate, please amend your filing and respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a cover letter with your amendment response that keys your responses to our comments and provides any requested information. You may wish to provide us with marked copies of your amendment for our review. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your responses to our comments.

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 all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed decision. 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 connection with responding to our comments, please provide, in writing, a 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

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- 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.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

You may contact Kristin Lochhead at (202) 551-3664 or me at (202) 551-3676 if you have questions. In this regard, please do not hesitate to contact Martin James, Senior Assistant Chief Accountant, at (202) 551-3671 with any other questions.

Sincerely,

Brian Cascio
Accounting Branch Chief