



DIVISION OF
CORPORATION FINANCE

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

August 23, 2012

Mark 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, 2011
Filed March 13, 2012
File No. 001-34375

Dear Mr. Saad:

We have reviewed your filing and have the following comments. We have limited our review to only your financial statements and related disclosures and do not intend to expand our review to other portions of your documents. 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.

Form 10-K for the Fiscal Year Ended December 31, 2011

Note 2. Revenue Recognition, page 53

Product Sales, page 53

1. We note that your products, including stem cell banks, typically involve the delivery of, "a complex array of equipment, proprietary knowledge, and services," and that you, "account for products or services (deliverables) separately, rather than as a combined unit." Please provide us with a description of your deliverables and units of accounting for these arrangements. Confirm how your accounting policy complies with paragraphs 25-3 to 25-6 of FASB ASC 605-25 and specifically address how each unit of accounting complies with 25-5(a) and 25-5(c) of that literature. Please also revise future filings to

clearly identify the deliverables included in each separate unit of accounting and provide us with a copy of your proposed revised policy.

Research and Development, page 54

2. In future filings please disclose the specific R&D milestones achieved that resulted in the recognition of revenue from the Olympus-Cytori Joint Venture each period.

Note 12. Stockholders' Equity (Deficit), page 68

Common Stock, page 69

3. We see that on December 13, 2010, you raised \$10 million from the sale of unregistered common stock to Astellas Pharma Inc. and that you attributed \$2.5 million of the proceeds to deferred revenue. Please describe for us the accounting basis for recognizing the difference between the proceeds received and the fair value of your common shares as deferred revenue. Provide us with specific references to the authoritative accounting literature which supports your conclusion. Please also describe for us the additional rights Astellas received as part of this arrangement, clarify how those rights impacted your accounting for the transaction and describe any preexisting relationships with Astellas prior to this agreement.

Exhibit 32.1

4. We note that your Section 906 certification furnished in accordance with Item 601(b)(32) of Regulation S-K improperly refers to the period ended December 31, 2010. Please file an amendment to your Form 10-K that includes the entire filing, including Section 302 certifications, together with Section 906 certifications that refer to the December 31, 2011 period.

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

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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.

You may contact Kevin Kuhar, Staff Accountant, at (202) 551-3662 or me at (202) 551-3676 if you have questions regarding comments on the financial statements and related matters. In this regard, do not hesitate to contact Martin James, Senior Assistant Chief Accountant, at (202) 551-3671 with any other questions.

Sincerely,

/s/ Brian Cascio

Brian Cascio
Accounting Branch Chief