

May 10, 2016  
Via UPS  
Amanda Ravitz  
Assistant Director  
Securities and Exchange Commission  
Division of Corporation Finance  
100 F Street, NE  
Washington, DC 20549

**Re: Cytori Therapeutics, Inc.  
Registration Statement on Form S-1 filed April 6, 2016  
File No. 333-210628**

Ladies and Gentlemen:

This letter responds to the letter of the staff (the "Staff") of the United States Securities and Exchange Commission, dated May 3, 2016, to Marc H. Hedrick, MD, President and Chief Executive Officer of Cytori Therapeutics, Inc. (the "Company") regarding the Registration Statement on Form S-1 filed by the Company on April 6, 2016 (the "Registration Statement"). The Company is publicly filing under separate cover Amendment No. 1 to the Registration Statement (the "Amendment") in response to the Staff's comments. Please note that the Amendment also contains other updates to the Company's disclosures.

This letter sets forth the comment of the Staff in the comment letter and, following the comment, sets forth the Company's response. We are enclosing a copy of the Amendment, together with a copy that is marked to show the changes from the initial filing.

**Registration Statement**

- 1. Please amend your filing to include all information other than that which can be omitted per Rule 430A. For example, we note the blanks currently on the prospectus cover and throughout your document regarding the number of securities you are offering. As further examples, we note that you have not disclosed the record date and the expiration date of the rights. Also note that information like what you currently omit on page 23 must be disclosed based on a bona fide estimate of the public offering price.*

**Response:**

In response to the Staff's comment, the Company has amended the Registration Statement to include all information other than that which can be omitted per Rule 430A.

**Use of Proceeds, page 23**

- 2. Please disclose the amount of net proceeds that you currently intend to use for each purpose identified in the first two sentences in the second paragraph of this section. You may also reserve the right to change the use of proceeds as indicated in instruction 7 to Regulation S-K Item 504. If you do not have a specific plan for a significant portion of the proceeds, please say so clearly and discuss the principal reasons for the offering.*

**Response:**

In response to the Staff's comment, the Company has revised its disclosure on page 23 to disclose the amount of net proceeds it intends to use for each stated purpose. Assuming the Company sells all \$20,000,000 of Units registered, we estimate that the net proceeds from the Rights Offering will be approximately \$18.2 million. The Company intends to use approximately \$10.0 million of such net proceeds from the exercise of Subscription Rights research and development, including our clinical trials, further development of our Celution System products and other related research and development and approximately \$8.2 million of such net proceeds for general corporate purposes, including our sales and marketing initiatives, including those relating to our potential commercialization of ECCS-50 in Europe, general administrative expenses, working capital and capital expenditures.

**Use of Proceeds, page 23**

- 3. Please quantify how you will allocate the proceeds for each disclosed purpose assuming that you sell less than the maximum amount of securities that you are offering. Include a reasonable range of potential outcomes regarding the number of securities that you might sell; for example, if reasonable, you could disclose your use of proceeds assuming that you sell 25%, 50%, 75% and 100% of the securities offered.*

**Response:**

In response to the Staff's comment, the Company has revised its disclosure on page 23 to quantify how it will allocate the proceeds for each disclosed purpose assuming it sells less than the maximum amount of securities it is offering. The Company has disclosed its intended use of proceeds assuming it sells 25%, 50%, 75% and 100% of the securities offered.

**Material U.S. Federal Income Tax Consequences, page 33**

- 4. Please file the opinion that Regulation S-K Item 601(b)(8) requires regarding the tax consequences that you describe in your prospectus. See Section III.A.2 of Staff Legal Bulletin No. 19 (October 14, 2011).*

**Response:**

In response to the Staff's comment, the Company has filed the requested opinion as Exhibit 8.1 to the Amendment regarding the tax consequences described in the prospectus.

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We and the Company very much appreciate the Staff's attention to the review of the Registration Statement. Please do not hesitate to contact me at (858) 677-1458 if you have any questions regarding this letter, the Registration Statement or the Amendment.

Very truly yours,

**DLA Piper LLP (US)**

/s/ **DLA Piper LLP (US)**

Jeffrey T. Baglio  
Partner

cc: Via E-mail

Securities and Exchange Commission:

Tim Buchmiller

Tom Jones

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