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May 25, 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.
Amendment No. 1 to Registration Statement on Form S-1
Filed May 10, 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 24, 2016, to Marc H. Hedrick, MD, President and Chief Executive Officer of Cytori Therapeutics, Inc. (the "Company") regarding the Amendment No. 1 to Registration Statement on Form S-1 filed by the Company on May 10, 2016 (the "Registration Statement"). The Company is publicly filing under separate cover Amendment No. 2 to the Registration Statement (the "Amendment") in response to the Staff's comments.

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.

Use of Proceeds

- 1. We note your response to prior comment 3. If material amounts of other funds are necessary to accomplish the purposes for which the proceeds are to be obtained, state the amounts and intended sources of such funds needed for each specified purpose and the sources thereof.*

Response:

In response to the Staff's comment, and as discussed with Staff, the Company has revised the referenced disclosure (1) to clarify the primary uses of proceeds and the order of any residual uses, and (2) to state that the Company believes, even if it were only able to sell 25% of the maximum amount of units, that the net proceeds from the rights offering together with its cash on hand will be sufficient to fund its primary uses of proceeds.

Exhibit 5.1

- 2. Please revise to opine that the rights and warrants are binding obligations of the registrant under the law of the jurisdiction governing those securities. Please refer to Section II.B.1.f. of Staff Legal Bulletin No. 19 available on our website.*
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May 25, 2016

Page Two

Response:

In response to the Staff's comment, the Company has filed with the Amendment a revised Exhibit 5.1 opinion, which opines that the rights and warrants are binding obligations of the registrant under the law of the jurisdiction governing those securities.

* * *

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/ **Jeffrey Baglio**

Jeffrey Baglio
Partner

cc: Via E-mail

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Tim Buchmiller

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