



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 3030

May 24, 2016

Marc H. Hedrick, MD
President and Chief Executive Officer
Cytori Therapeutics, Inc.
3020 Callan Road
San Diego, CA 92121

**Re: Cytori Therapeutics, Inc.
Amendment No. 1 to Registration Statement on Form S-1
Filed May 10, 2016
File No. 333-210628**

Dear Dr. Hedrick:

We have reviewed your amended registration statement 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 by amending your registration statement and providing the requested information. 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 the registration statement and the information you provide in response to these comments, we may have additional comments. Unless we note otherwise, our references to prior comments are to comments in our May 3, 2016 letter.

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.

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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Please contact Tom Jones at (202) 551-3602 or Tim Buchmiller, Senior Attorney, at (202) 551-3635 with any questions.

Sincerely,

/s/ Tim Buchmiller for

Amanda Ravitz
Assistant Director
Office of Electronics and Machinery

cc: Jeffrey T. Baglio, Esq.