

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM S-1
REGISTRATION STATEMENT
UNDER THE SECURITIES ACT OF 1933
CYTORI THERAPEUTICS, INC.
(Exact Name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction of Incorporation or Organization)

3841
(Primary Standard Industrial Classification Code Number)

33-0827593
(I.R.S. Employer Identification Number)

3020 Callan Road
San Diego, CA
(858) 458-0900
(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

Marc H. Hedrick, MD
President and Chief Executive Officer
Cytori Therapeutics, Inc.
3020 Callan Road
San Diego, CA 92121
(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

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Approximate date of commencement of proposed sale to the public: As soon as practicable after this registration statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company
(Do not check if a smaller reporting company)

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Proposed Maximum Aggregate Offering Price ⁽¹⁾	Amount of Registration Fee
Units, each consisting of one share of common stock, par value \$0.001 per share ("Common Stock") and of a warrant to purchase one share of common stock ("Units")	\$ 10,000,000	\$ 1,007
Non-transferable Rights to purchase Units ⁽²⁾	-	-
Common Stock included as part of the Units	Included with Units above	-
Warrants included as part of the Units ⁽³⁾	Included with Units above	-
Common Stock issuable upon exercise of the Warrants included in the Units ⁽¹⁾⁽⁴⁾	\$ 1,000,000	\$ 101
Total	\$ 11,000,000	\$ 1,108

(1) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(o) of the Securities Act of 1933 (the "Act").

(2) Non-transferable Rights to purchase Units are being issued without consideration. Pursuant to Rule 457(g) under the Act, no separate registration fee is required for the Rights because the Rights are being registered in the same registration statement as the Common Stock of the Registrant underlying the Rights.

(3) Pursuant to Rule 457(g) of the Act, no separate registration fee is required for the Warrants because the Warrants are being registered in the same registration statement as the Common Stock of the Registrant issuable upon exercise of the Warrants.

(4) In addition to the shares of Common Stock set forth in this table, pursuant to Rule 416 under the Act, this registration statement also registers such indeterminate number of shares of Common Stock as may become issuable upon exercise of the Warrants as the same may be adjusted as a result of their customary anti-dilution provisions.

The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

PRELIMINARY PROSPECTUS

SUBJECT TO COMPLETION

DATED APRIL 6, 2016



Subscription Rights to Purchase Up to Units
Consisting of an Aggregate of Up to Shares of Common Stock
and Warrants to Purchase Up to Shares of Common Stock
at a Subscription Price of \$ Per Unit

We are distributing at no charge to holders of our common stock, at no charge, non-transferable subscription rights to purchase units. Each unit, which we refer to as a Unit, consists of one share of common stock and of a warrant representing the right to purchase one share of common stock, which we refer to as the Warrants. We refer to the offering that is the subject of this prospectus as the Rights Offering. In the Rights Offering, you will receive one subscription right for every shares of common stock owned at 5:00 p.m., Eastern Time, on , 2016, the record date of the Rights Offering, or the Record Date. The common stock and the Warrants comprising the Units will separate upon the closing of the Rights Offering and will be issued separately but may only be purchased as a Unit and the Units will not trade as a separate security. The subscription rights will not be tradable.

Each subscription right will entitle you to purchase one Unit, which we refer to as the Basic Subscription Right, at a subscription price per Unit of \$, which we refer to as the Subscription Price. Each whole Warrant entitles the holder to purchase one share of common stock at an exercise price of \$ per share from the date of issuance through their expiration two years from the date of issuance. If you exercise your Basic Subscription Rights in full, and other stockholders do not fully exercise their Basic Subscription Rights, you will be entitled to an over-subscription privilege to purchase a portion of the unsubscribed Units at the Subscription Price, subject to proration and ownership limitations, which we refer to as the Over-Subscription Privilege. Each subscription right consists of a Basic Subscription Right and an Over-Subscription Privilege, which we refer to as the Subscription Right.

The Subscription Rights will expire if they are not exercised by 5:00 p.m., Eastern Time, on , 2016, unless extended or earlier terminated by the Company. If we elect to extend the Rights Offering, we will issue a press release announcing the extension no later than 9:00 a.m., Eastern Time, on the next business day after the most recently announced expiration date of the Rights Offering. We may extend the Rights Offering for additional periods in our sole discretion. Once made, all exercises of Subscription Rights are irrevocable.

We have not entered into any standby purchase agreement or other similar arrangement in connection with the Rights Offering. The Rights Offering is being conducted on a best-efforts basis and there is no minimum amount of proceeds necessary to be received in order for us to close the Rights Offering.

We have engaged Maxim Group LLC to act as dealer-manager in the Rights Offering.

Investing in our securities involves a high degree of risk. See the section entitled "Risk Factors" beginning on page 21 of this prospectus. You should carefully consider these risk factors, as well as the information contained in this prospectus, before you invest.

Broadridge Corporate Issuer Solutions, Inc. will serve as the Subscription and Information Agent for the Rights Offering. The Subscription Agent will hold the funds we receive from subscribers until we complete, abandon or terminate the Rights Offering. If you want to participate in this Rights Offering and you are the record holder of your shares or warrants, we recommend that you submit your subscription documents to the Subscription Agent well before the deadline. If you want to participate in this Rights Offering and you hold shares through your broker, dealer, bank, or other nominee, you should promptly contact your broker, dealer, bank, or other nominee and submit your subscription documents in accordance with the instructions and within the time period provided by your broker, dealer, bank, or other nominee. For a detailed discussion, see "The Rights Offering – The Subscription Rights."

Our board of directors reserves the right to terminate the Rights Offering for any reason any time before the closing of the Rights Offering. If we terminate the Rights Offering, all subscription payments received will be returned within 10 business days, without interest or deduction. We expect the Rights Offering to expire on or about _____, 2016, subject to our right to extend the Rights Offering as described above.

Our common stock is listed on The NASDAQ Capital Market, or NASDAQ, under the symbol "CYTX." On April 5, 2016, the last reported sale price of our common stock was \$0.23 per share. We have applied to list the Warrants on NASDAQ following their issuance under the symbol "CYTXW." The Subscription Rights are non-transferrable and will not be listed for trading on NASDAQ or any other stock exchange or market. You are urged to obtain a current price quote for our common stock before exercising your Subscription Rights.

	<u>Per Unit</u>	<u>Total(2)</u>
Subscription price	\$	\$
Dealer-Manager fees and expenses (1)	\$	\$
Proceeds to us, before expenses	\$	\$

- (1) In connection with this Rights Offering, we have agreed to pay to Maxim Group LLC as the dealer-manager a cash fee equal to (i) 6% of the gross proceeds received by us directly from exercises of the Subscription Rights if the amount of such gross proceeds is less than \$7.5 million or (b) 7% of the gross proceeds received by us directly from exercises of the Subscription Rights if the amount of such gross proceeds is at least \$7.5 million. We have also agreed to reimburse the dealer-manager for its expenses up to \$75,000. See "Plan of Distribution."
- (2) Assumes the Rights Offering is fully subscribed, but excludes proceeds from the exercise of Warrants included within the Units.

Our board of directors is making no recommendation regarding your exercise of the Subscription Rights. You should carefully consider whether to exercise your Subscription Rights before the expiration date. You may not revoke or revise any exercises of Subscription Rights once made.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

Dealer-Manager

Maxim Group LLC

The date of this Prospectus is _____, 2016

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ABOUT THIS PROSPECTUS

The registration statement of which this prospectus forms a part that we have filed with the Securities and Exchange Commission, or SEC, includes exhibits that provide more detail of the matters discussed in this prospectus. You should read this prospectus and the related exhibits filed with the SEC, together with the additional information described under the headings "Where You Can Find More Information" and "Incorporation by Reference" before making your investment decision.

You should rely only on the information provided in this prospectus or in a prospectus supplement or any free writing prospectuses or amendments thereto. We have not authorized anyone else to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. You should assume that the information in this prospectus is accurate only as of the date hereof. Our business, financial condition, results of operations and prospects may have changed since that date.

We are not offering to sell or seeking offers to purchase these securities in any jurisdiction where the offer or sale is not permitted. We and the dealer-manager have not done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the securities as to distribution of the prospectus outside of the United States.

Unless the context otherwise requires, references in this prospectus to "Cytori," "the Company," "we," "us" and "our" refer to Cytori Therapeutics, Inc. Solely for convenience, our trademarks and tradenames referred to in this registration statement, such as Cytori Cell Therapy, Celution, Celase and Intravase, may appear without the ® or ™ symbols, but such references are not intended to indicate in any way that we will not assert, to the fullest extent under applicable law, our rights to these trademarks and tradenames. All other trademarks, service marks and trade names included or incorporated by reference into this prospectus supplement or the accompanying prospectus are the property of their respective owners.

LETTER FROM OUR CHIEF EXECUTIVE OFFICER

Dear Stockholders,

Over the past 18 months Cytori has undergone a considerable transformation. Driving that transformation is a fresh, experienced team that is focused on getting the job done, quickly and efficiently.

Over that time, we have enhanced the company's path to a U.S. approval by repositioning our clinical program from a single expensive development program for heart failure to a broader pipeline of later stage indications that are cost effective to develop while still targeting very attractive commercial opportunities and unmet patient needs. The U.S. phase III trial in our lead indication, scleroderma, should be fully enrolled in mid-2016 with a planned evaluation and potential FDA approval by 2018.

Simultaneously, we have taken a number of actions to strengthen our financial position and continue to reduce our financing requirements. Specifically, we reduced a substantial amount of the company's debt and key liabilities and we have reduced our operating cash burn by over 40% year-over-year while increasing our investment in research and development with an emphasis on late-stage clinical programs. In addition, we are focusing on three key revenue-producing activities: our BARDA program, our Japan therapeutic sales and our recently launched European managed access program. These combined initiatives are part of our plan to become financially self-sustaining, while in the meantime, allow greater flexibility and discretion in when and how we access capital with the goal of minimizing dilution to current shareholders.

As we approach a number of important milestones, the board and management seek to address the existing capital needs of the company in a manner that best recognizes and includes our stockholders. We believe this stockholder rights offering will provide sufficient capital to allow the company to complete enrollment and announce the data from our US phase III scleroderma trial and move the company ever closer to our larger goal of enhancing lives through novel cellular therapies.

Thank you for your support of the company and confidence in our technology and team.

Sincerely,



Dr. Marc H. Hedrick
President & CEO

QUESTIONS AND ANSWERS RELATING TO THE RIGHTS OFFERING

The following are examples of what we anticipate will be common questions about this Rights Offering. The answers are based on selected information included elsewhere in this prospectus. The following questions and answers do not contain all of the information that may be important to you and may not address all of the questions that you may have about the Rights Offering. This prospectus and the documents incorporated by reference into this prospectus contain more detailed descriptions of the terms and conditions of the Rights Offering and provides additional information about us and our business, including potential risks related to the Rights Offering, the Units offered hereby, and our business. We urge you to read this entire prospectus and the documents incorporated by reference into this prospectus.

Why are we conducting the Rights Offering?

We are conducting the Rights Offering to raise additional capital for general corporate purposes, including our clinical trials, further development of our Celution System products and other related research and development, sales and marketing, general administrative expenses, working capital and capital expenditures.

What is the Rights Offering?

We are distributing, at no charge, to record holders of our common stock, non-transferable Subscription Rights to purchase Units at a price of \$ per Unit. The Subscription Rights will not be tradable. Each Unit consists of one share of common stock and of a Warrant to purchase one share of common stock. Upon closing of the Rights Offering, the common stock and Warrants will immediately separate. We have applied to list the Warrants on NASDAQ under the symbol "CYTXW." You will receive one Subscription Right for every shares of common stock that you owned as of 5:00 p.m., Eastern Time, on the Record Date. Each Subscription Right entitles the record holder or holder of a warrant to a Basic Subscription Right and an Over-Subscription Privilege. The Subscription Rights will expire if they are not exercised by 5:00 p.m., Eastern Time, on , 2016, unless extended or earlier terminated by the Company.

What are the Basic Subscription Rights?

For every shares you owned you owned as of the Record Date, you will receive one Basic Subscription Right, which gives you the opportunity to purchase one Unit, consisting of one share of our common stock and of a Warrant to purchase one share of our common stock for a price of \$ per Unit. For example, if you owned 100 shares of common stock as of the Record Date, you will receive Subscription Rights and will have the right to purchase shares of our common stock and Warrants to purchase shares of our common stock for \$ per Unit (or a total payment of \$). You may exercise all or a portion of your Basic Subscription Rights or you may choose not to exercise any Basic Subscription Rights at all.

If you are a record holder of our common stock, the number of shares you may purchase pursuant to your Basic Subscription Rights is indicated on the enclosed Rights Certificate. If you hold your shares in the name of a broker, dealer, bank, or other nominee who uses the services of the Depository Trust Company, or DTC, you will not receive a Rights Certificate. Instead, DTC will issue one Subscription Right to your nominee record holder for every shares of our common stock that you beneficially own as of the Record Date. If you are not contacted by your nominee, you should contact your nominee as soon as possible.

What is the Over-Subscription Privilege?

If you exercise your Basic Subscription Rights in full, you may also choose to exercise your Over-Subscription Privilege to purchase a portion of any Units that the other record holders do not purchase through the exercise of their Basic Subscription Rights. You should indicate on your Rights Certificate, or the form provided by your nominee if your shares are held in the name of a nominee, how many additional Units you would like to purchase pursuant to your Over-Subscription Privilege.

Subject to stock ownership limitations, if sufficient Units are available, we will seek to honor your Over-Subscription request in full. If Over-Subscription requests exceed the number of Units available, however, we will allocate the available Units pro-rata among the record holders exercising the Over-Subscription Privilege in proportion to the number of shares of our common stock each of those record holders owned on the Record Date, relative to the number of shares owned on the Record Date by all record holders exercising the Over-Subscription Privilege. If this pro-rata allocation results in any record holders receiving a greater number of Units than the record holder subscribed for pursuant to the exercise of the Over-Subscription Privilege, then such record holder will be allocated only that number of Units for which the record holder oversubscribed, and the remaining Units will be allocated among all other record holders exercising the Over-Subscription Privilege on the same pro rata basis described above. The proration process will be repeated until all Units have been allocated. See "The Rights Offering—Limitation on the Purchase of Units" for a description of certain stock ownership limitations.

To properly exercise your Over-Subscription Privilege, you must deliver to the Subscription Agent the subscription payment related to your Over-Subscription Privilege before the Rights Offering expires. See "The Rights Offering—The Subscription Rights—Over-Subscription Privilege." To the extent you properly exercise your Over-Subscription Privilege for an amount of Units that exceeds the number of unsubscribed Units available to you, any excess subscription payments will be returned to you within 10 business days after the expiration of the Rights Offering, without interest or deduction.

Broadridge Corporate Issuer Solutions, Inc., our Subscription Agent for the Rights Offering, will determine the Over-Subscription allocation based on the formula described above.

What are the terms of the Warrants?

Each Warrant entitles the holder to purchase one share of common stock at an exercise price of \$ _____ per share from the date of issuance through their expiration two years from the date of issuance. The Warrants will be exercisable for cash, or, solely during any period when a registration statement for the exercise of the Warrants is not in effect, on a cashless basis. We may redeem the Warrants for \$0.01 per Warrant if our common stock closes above \$ _____ per share for 10 consecutive trading days.

Are the Warrants listed?

We have applied to list the Warrants on NASDAQ under the symbol "CYTXW," although there is no assurance that a sufficient number of Subscription Rights will be exercised so that the Warrants will meet the minimum listing criteria to be accepted for listing on NASDAQ.

The Warrants will be issued in registered form under a warrant agent agreement with Broadridge Corporate Issuer Solutions, Inc. as warrant agent.

What are the requirements to list the Warrants on Nasdaq?

In order to satisfy the initial listing requirement for Warrants on the Nasdaq Capital Market, we must (i) issue at least 400,000 Warrant, (ii) maintain the listing of the common stock underlying the Warrants on NASDAQ, (iii) have at least three registered and active market makers, and (4) have at least 400 round lot holders of the Warrants (meaning a holder of at least 100 warrants).

Will fractional shares be issued upon exercise of Subscription Rights or upon the exercise of Warrants?

No. We will not issue fractional shares of common stock in the Rights Offering. We will only distribute Subscription Rights to acquire whole Units, and rights holders will only be entitled to purchase a number of Units representing a whole number of shares and Warrants, rounded down to the nearest whole number of shares or Warrants, as applicable, a holder would otherwise be entitled to purchase. Any excess subscription payments received by the Subscription Agent will be returned within 10 business days after expiration of the Rights Offering, without interest or deduction.

What effect will the Rights Offering have on our outstanding common stock?

Based on 195,058,395 shares of common stock outstanding as of December 31, 2015 assuming no other transactions by us involving our common stock prior to the expiration of the Rights Offering, if the Rights Offering is fully subscribed, _____ shares of our common stock will be issued and outstanding and Warrants to purchase an additional _____ shares of our common stock will be outstanding stock. The exact number of shares and Warrants that we will issue in this Rights Offering will depend on the number of Units that are subscribed for in the Rights Offering.

How was the Subscription Price determined?

In determining the Subscription Price, the directors considered, among other things, the following factors:

- the current and historical trading prices of our common stock;
- the price at which stockholders might be willing to participate in the Rights Offering;
- the value of the Warrant being issued as a component of the Unit;
- our need for additional capital and liquidity;
- the cost of capital from other sources; and
- comparable precedent transactions, including the percentage of shares offered, the terms of the subscription rights being offered, the subscription price and the discount that the subscription price represented to the immediately prevailing closing prices for those offerings.

In conjunction with the review of these factors, the board of directors also reviewed our history and prospects, including our past and present earnings and cash requirements, our prospects for the future, the outlook for our industry and our current financial condition. The board of directors also believed that the Subscription Price should be designed to provide an incentive to our current stockholders to participate in the Rights Offering and exercise their Basic Subscription Right and their Over-Subscription Privilege.

The Subscription Price does not necessarily bear any relationship to any established criteria for value. You should not consider the Subscription Price as an indication of actual value of our company or our common stock. The market price of our common stock may decline during or after the Rights Offering. You should obtain a current price quote for our common stock before exercising your Subscription Rights and make your own assessment of our business and financial condition, our prospects for the future, the terms of the Rights Offering, the information in this prospectus and the other considerations relevant to your circumstances. Once made, all exercises of Subscription Rights are irrevocable. In addition, there is no established trading market for the Warrants to be issued pursuant to this offering, and the Warrants may not be widely distributed. We have applied to list the Warrants for trading on NASDAQ under the symbol "CYTXW," but there can be no assurance that a sufficient number of Subscription Rights will be exercised so that the Warrants will meet minimum listing criteria to be accepted for listing on NASDAQ or that a market will develop for the Warrants.

Am I required to exercise all of the Basic Subscription Rights I receive in the Rights Offering?

No. You may exercise any number of your Basic Subscription Rights, or you may choose not to exercise any Basic Subscription Rights. If you do not exercise any Basic Subscription Rights, the number of shares of our common stock you own will not change. However, if you choose to not exercise your Basic Subscription Rights in full and other holders of Subscription Rights do exercise, your proportionate ownership interest in our company will decrease. If you do not exercise your Basic Subscription Rights in full, you will not be entitled to exercise your Over-Subscription Privilege.

How soon must I act to exercise my Subscription Rights?

If you received a Rights Certificate and elect to exercise any or all of your Subscription Rights, the Subscription Agent must receive your completed and signed Rights Certificate and payment for both your Basic Subscription Rights and any Over-Subscription Privilege you elect to exercise before the Rights Offering expires on _____, 2016, at 5:00 p.m., Eastern Time. If you hold your shares in the name of a broker, dealer, bank, or other nominee, your nominee may establish a deadline before the expiration of the Rights Offering by which you must provide it with your instructions to exercise your Subscription Rights, along with the required subscription payment.

May I transfer my Subscription Rights?

No. The Subscription Rights may be exercised only by the stockholders to whom they are distributed, and they may not be sold, transferred, assigned or given away to anyone else, other than by operation of law. As a result, Rights Certificates may be completed only by the stockholder who receives the certificate. We do not intend to apply for the listing of the Subscription Rights on any securities exchange or recognized trading market.

Will our directors and executive officers participate in the Rights Offering?

To the extent they hold common stock as of the Record Date, our directors and executive officers will be entitled to participate in the Rights Offering on the same terms and conditions applicable to other Rights holders. While none of our directors or executive officers has entered into any binding commitment or agreement to exercise Subscription Rights received in the Rights Offering, certain directors and executive officers have indicated an interest in participating in the offering.

Has the board of directors made a recommendation to stockholders regarding the Rights Offering?

No. Our board of directors is making no recommendation regarding your exercise of the Subscription Rights. Rights holders who exercise Subscription Rights will incur investment risk on new money invested. We cannot predict the price at which our shares of common stock and, if listed, the Warrants will trade after the Rights Offering. On April 5, 2016, the closing price of our common stock was \$0.23 per share. The market price for our common stock may be above the Subscription Price or may be below the Subscription Price. If you exercise your Subscription Rights, you may not be able to sell the underlying shares of our common stock (or Warrants) in the future at the same price or a higher price. You should make your decision based on your assessment of our business and financial condition, our prospects for the future, the terms of the Rights Offering, the information contained in this prospectus and other considerations relevant to your circumstances. See "Risk Factors" for discussion of some of the risks involved in investing in our securities.

How do I exercise my Subscription Rights?

If you are a stockholder of record (meaning you hold your shares of our common stock in your name and not through a broker, dealer, bank, or other nominee) and you wish to participate in the Rights Offering, you must deliver a properly completed and signed Rights Certificate, together with payment of the Subscription Price for both your Basic Subscription Rights and any Over-Subscription Privilege you elect to exercise, to the Subscription Agent before 5:00 p.m., Eastern Time, on _____, 2016. If you are exercising your Subscription Rights through your broker, dealer, bank, or other nominee, you should promptly contact your broker, dealer, bank, or other nominee and submit your subscription documents and payment for the Units subscribed for in accordance with the instructions and within the time period provided by your broker, dealer, bank or other nominee.

What if my shares or warrants are held in "street name"?

If you hold your shares of our common stock in the name of a broker, dealer, bank, or other nominee, then your broker, dealer, bank, or other nominee is the record holder of the shares you beneficially own. The record holder must exercise the Subscription Rights on your behalf. Therefore, you will need to have your record holder act for you.

If you wish to participate in this Rights Offering and purchase Units, please promptly contact the record holder of your shares. We will ask the record holder of your shares, who may be your broker, dealer, bank, or other nominee, to notify you of this Rights Offering.

What form of payment is required?

You must timely pay the full Subscription Price for the full number of Units you wish to acquired pursuant to the exercise of Subscription Rights by delivering to the Subscription Agent a:

- personal check drawn on a U.S. bank;
- certified check drawn on a U.S. bank;
- U.S. Postal money order; or
- wire transfer.

If you send payment by personal uncertified check, payment will not be deemed to have been delivered to the Subscription Agent until the check has cleared.

If you send a payment that is insufficient to purchase the number of Units you requested, or if the number of Units you requested is not specified in the forms, the payment received will be applied to exercise your Subscription Rights to the fullest extent possible based on the amount of the payment received.

When will I receive my new shares of common stock and Warrants?

The Subscription Agent will arrange for the issuance of the common stock and Warrants as soon as practicable after the expiration of the Rights Offering, payment for the Units subscribed for has cleared, and all prorating calculations and reductions contemplated by the terms of the Rights Offering have been effected. All shares and Warrants that you purchase in the Rights Offering will be issued in book-entry, or uncertificated, form meaning that you will receive a direct registration (DRS) account statement from our transfer agent reflecting ownership of these securities if you are a holder of record of shares or warrants. If you hold your shares in the name of a broker, dealer, bank, or other nominee, DTC will credit your account with your nominee with the securities you purchase in the Rights Offering. Broadridge Corporate Issuer Solutions, Inc. is acting as the warrant agent in this offering.

After I send in my payment and Rights Certificate to the Subscription Agent, may I cancel my exercise of Subscription Rights?

No. Exercises of Subscription Rights are irrevocable, even if you later learn information that you consider to be unfavorable to the exercise of your Subscription Rights. You should not exercise your Subscription Rights unless you are certain that you wish to purchase Units at the Subscription Price.

How much will our company receive from the Rights Offering?

Assuming that all Units are sold in the Rights Offering, we estimate that the net proceeds from the Rights Offering will be approximately \$ million, based on the Subscription Price of \$ per Unit, after deducting fees and expenses payable to the dealer-manager, and after deducting other expenses payable by us and excluding any proceeds received upon exercise of any Warrants. If all Warrants included in the Units are exercised at the exercise price of \$ per share, we will receive an addition \$ million. We intend to use approximately half of the 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. In addition, we intend to use approximately half of the 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. See "Use of Proceeds."

Are there risks in exercising my Subscription Rights?

Yes. The exercise of your Subscription Rights involves risks. Exercising your Subscription Rights involves the purchase of additional shares of our common stock and Warrants to purchase common stock and you should consider this investment as carefully as you would consider any other investment. The market price of our common stock may not exceed the Subscription Price, and the market price of our common stock may decline during or after the Rights Offering. Our warrants may not be listed on the Nasdaq Capital Market and, even if listed, a market for the Warrants may not develop. You may not be able to sell shares of our common stock or Warrants purchased in the Rights Offering at a price equal to or greater than the Subscription Price. In addition, you should carefully consider the risks described under the heading "Risk Factors" for discussion of some of the risks involved in investing in our securities.

Can the board of directors terminate or extend the Rights Offering?

Yes. Our board of directors may decide to terminate the Rights Offering at any time and for any reason before the expiration of the Rights Offering. We also have the right to extend the Rights Offering for additional periods in our sole discretion. We do not presently intend to extend the Rights Offering. We will notify stockholders and the public if the Rights Offering is terminated or extended by issuing a press release announcing the extension no later than 9:00 a.m., Eastern Time, on the next business day after the most recently announced expiration date of the Rights Offering.

If the Rights Offering is not completed or is terminated, will my subscription payment be refunded to me?

Yes. The Subscription Agent will hold all funds it receives in a segregated bank account until completion of the Rights Offering. If we do not complete the Rights Offering, all subscription payments received by the Subscription Agent will be returned within 10 business days after the termination or expiration of the Rights Offering, without interest or deduction. If you own shares in "street name," it may take longer for you to receive your subscription payment because the Subscription Agent will return payments through the record holder of your shares.

How do I exercise my Rights if I live outside the United States?

The Subscription Agent will hold Rights Certificates for stockholders having addresses outside the United States. To exercise Subscription Rights, foreign stockholders must notify the Subscription Agent and timely follow other procedures described in the section entitled "The Rights Offering – Foreign Shareholders."

What fees or charges apply if I purchase shares in the Rights Offering?

We are not charging any fee or sales commission to issue Subscription Rights to you or to issue shares or Warrants to you if you exercise your Subscription Rights. If you exercise your Subscription Rights through a broker, dealer, bank, or other nominee, you are responsible for paying any fees your broker, dealer, bank, or other nominee may charge you.

What are the U.S. federal income tax consequences of receiving and/or exercising my Subscription Rights?

For U.S. federal income tax purposes, we do not believe you should recognize income or loss in connection with the receipt or exercise of Subscription Rights in the Rights Offering. You should consult your tax advisor as to the tax consequences of the Rights Offering in light of your particular circumstances. For a detailed discussion, see "Material U.S. Federal Income Tax Consequences."

To whom should I send my forms and payment?

If your shares are held in the name of a broker, dealer, bank, or other nominee, then you should send your subscription documents and subscription payment to that broker, dealer, bank, or other nominee. If you are the record holder, then you should send your subscription documents, Rights Certificate, and subscription payment to the Subscription Agent by hand delivery, first class mail or courier service to:

Broadridge Corporate Issuer Solutions, Inc.
1717 Arch Street, Suite 1300
Philadelphia, PA 19103
Attn: Re-Organization Department

You or, if applicable, your nominee are solely responsible for completing delivery to the Subscription Agent of your subscription documents, Rights Certificate and payment. You should allow sufficient time for delivery of your subscription materials to the Subscription Agent and clearance of payment before the expiration of the Rights Offering at 5:00 p.m. Eastern Time on _____, 2016.

Whom should I contact if I have other questions?

If you have other questions or need assistance, please contact the Information Agent:

Broadridge Corporate Issuer Solutions, Inc.
(855) 793-5068 (toll free)

Who is the dealer-manager?

Maxim Group LLC will act as dealer-manager for the Rights Offering. Under the terms and subject to the conditions contained in the dealer-manager agreement, the dealer-manager will use its best efforts to solicit the exercise of Subscription Rights. We have agreed to pay the dealer-manager certain fees for acting as dealer-manager and to reimburse the dealer-manager for certain out-of-pocket expenses incurred in connection with this offering. The dealer-manager is not underwriting or placing any of the Subscription Rights or the shares of our common stock or Warrants being issued in the Rights Offering and is not making any recommendation with respect to such Subscription Rights (including with respect to the exercise or expiration of such Subscription Rights), shares of common stock or Warrants.

This summary contains basic information about us and this offering. Because it is a summary, it does not contain all of the information that you should consider before investing. Before you decide to invest in our Units, you should read this entire prospectus carefully, including the section entitled "Risk Factors" and any information incorporated by reference herein.

Our Business

We develop cellular therapeutics uniquely formulated and optimized for specific diseases and medical conditions and related products. Our lead therapeutics are currently targeted for impaired hand function in scleroderma, osteoarthritis of the knee, stress urinary incontinence, and deep thermal burns including those complicated by radiation exposure.

Our cellular therapeutics are collectively known by the trademarked name, Cytori Cell Therapy, and consist of a mixed population of specialized cells including stem cells that are involved in response to injury, repair and healing. These cellular therapeutics are extracted from an adult patient's own adipose (fat) tissue using our fully automated Celution System, proprietary enzymes, and sterile consumable sets at the place where the patient is receiving their care or potentially at an off-site processing center. Cytori Cell Therapy can either be administered to the patient the same day or cryopreserved for future use. An independent published study has reported that our proprietary technology process resulted in higher nucleated cell viability, less residual enzyme activity, less processing time, and improved economics in terms of cell progenitor output compared to the three other semi-automated and automated processes that were reviewed.

Our primary near-term goal is for Cytori Cell Therapy to be the first cell therapy to market for the treatment of impaired hand function in scleroderma, through Cytori-sponsored and supported clinical development efforts. The STAR trial is a 48-week, randomized, double blind, placebo-controlled phase III pivotal clinical trial of 80 patients in the U.S. The trial evaluates the safety and efficacy of a single administration of Cytori Cell Therapy, or ECCS-50, in scleroderma patients affecting the hands and fingers. The first sites for the scleroderma study were initiated in July 2015. Approximately 40 patients had enrolled in the STAR trial by the end of the first quarter of 2016.

With respect to the remainder of our clinical pipeline, we received Investigational Device Exemption, or IDE, approval from the U.S. Food and Drug Administration, or FDA, in late 2014 for our phase II ACT-OA osteoarthritis study and in early 2015 we initiated this study, and enrollment was completed in June 2015. In addition, in July 2015, a Company-supported male stress urinary incontinence, or SUI, trial in Japan for male prostatectomy patients (after prostate surgery) received approval to begin enrollment from the Japanese Ministry of Health, Labor and Welfare, or MHLW. The goal of this investigator-initiated trial is to gain regulatory approval in Japan of Cytori Cell Therapy for this indication. In addition, we are developing a treatment for thermal burns combined with radiation injury under a contract from the Biomedical Advanced Research Development Authority, or BARDA, a division of the U.S. Department of Health and Human Services. We are also exploring other development opportunities in a variety of other conditions.

In addition to our targeted therapeutic development, we have continued to commercialize the Celution System under select medical device approvals, clearances and registrations to research and commercial customers in Europe, Japan, and other regions. Many of these customers are research customers evaluating new therapeutic applications of Cytori Cell Therapy. The sale of systems, consumables and ancillary products contributes a margin that partially offsets our operating expenses and will continue to play a role in fostering familiarity within the medical community with our technology. These sales have also facilitated the discovery of new applications for Cytori Cell Therapy by customers conducting investigator-initiated and funded research.

Lead Indication: Scleroderma

Scleroderma is a rare and chronic autoimmune disorder associated with fibrosis of the skin, and destructive changes in blood vessels and multiple organ systems as the result of a generalized overproduction of collagen. Scleroderma affects approximately 50,000 patients in the U.S. (women are affected four times more frequently than men) and is typically detected between the ages of 30 and 50. More than 90 percent of scleroderma patients have hand involvement that is typically progressive and can result in chronic pain, blood flow changes and severe dysfunction. The limited available treatments for scleroderma may provide some benefit but do little to modify disease progression or substantially improve symptoms. Treatment options are directed at protecting the hands from injury and detrimental environmental conditions as well as the use of vasodilators. When the disease is advanced, immunosuppressive and other medications may be used but are often accompanied by significant side effects.

In January 2015, the FDA granted unrestricted IDE approval for a pivotal clinical trial, named the "STAR" trial, to evaluate Cytori Cell Therapy as a potential treatment for impaired hand function in scleroderma. The STAR trial is a 48-week, randomized, double blind, placebo-controlled pivotal clinical trial of 80 patients in the U.S. The trial evaluates the safety and efficacy of a single administration of ECCS-50 in patients with scleroderma affecting the hands and fingers. The STAR trial uses the Cochin Hand Function Scale, or CHFS, a validated measure of hand function, as the primary endpoint measured at six months after a single administration of ECCS-50 or placebo. Patients in the placebo group will be eligible for crossover to the active arm of the trial after all patients have completed 48 weeks of follow up. In February 2015, the FDA approved our request to increase the number of investigational sites from 12 to up to 20. The increased number of sites is anticipated to broaden the geographic coverage of the trial and facilitate trial enrollment. The enrollment of this trial began in August 2015 and we recently reported that we enrolled 40 patients and expect to complete enrollment of this trial in mid-2016.

The STAR trial is predicated on a completed investigator-initiated pilot phase I/II trial performed in France termed SCLERADEC I. The SCLERADEC I trial received partial support from Cytori. The results were published in the *Annals of the Rheumatic Diseases* in May 2014 and demonstrate approximately a 50 percent improvement at six months across four important and validated endpoints used to assess the clinical status in patients with scleroderma with impaired hand function. Patients perceived their health status to be improved as shown by a 45.2% and 42.4% decrease of the Scleroderma Health Assessment Questionnaire, or SHAQ, at month 2 ($p=0.001$) and at month 6 ($p=0.001$), respectively. A 47% and 56% decrease of the CHFS at month 2 and month 6 in comparison to baseline was observed ($p<0.001$ for both). Grip strength increased at month 6 with a mean improvement of $+4.8\pm 6.4$ kg for the dominant hand ($p=0.033$) and $+4.0\pm 3.5$ kg for the non-dominant hand ($p=0.002$). Similarly, an increase in pinch strength at month 6 was noted with a mean improvement of $+1.0\pm 1.1$ kg for the dominant hand ($p=0.009$) and $+0.8\pm 1.2$ kg for the non-dominant hand ($p=0.050$). Among subjects having at least one digital ulcer (DU) at inclusion, total number of DU decreased, from 15 DUs at baseline, 10 at month 2 and 7 at month 6. The average reduction of the Raynaud's Condition Score from baseline was 53.7% at month 2 ($p<0.001$) and 67.5% at month 6 ($p<0.001$). Hand pain showed a significant decrease of 63.6% at month 2 ($p=0.001$) and 70% at month 6 ($p<0.001$). One year results were recently published in the journal *Rheumatology*. Relative to baseline, the CHFS and the SHAQ improved by 51.3% and 46.8% respectively ($p<0.001$ for both). The Raynaud's score improved by 63.2% from baseline ($p<0.001$). Other findings include a 30.5% improvement in grip strength ($p=0.002$) and a 34.5% improvement in hand pain ($p=0.052$). In February 2016, two-year follow up data in the SCLERADEC I trial was presented at the Systemic Sclerosis World Congress, which demonstrated sustained improvement in the following four key endpoints: Cochin Hand Function Score (CHFS), Scleroderma Health Assessment Questionnaire, Raynaud's Condition Score (which assesses severity of Raynaud's Phenomenon), and hand pain, as assessed by a standard visual analogue scale. The major findings at 24 months following single administration of Cytori Cell Therapy (ECCS-50) were as follows:

- Hand dysfunction assessed by the CHFS, showed a 62% reduction in hand dysfunction at two years ($p<0.001$).
- Raynaud's Condition Score decreased by an average of 89% over baseline at two years ($p<0.001$).
- Hand pain, as measured by a 100 mm Visual Analogue Scale, and the Scleroderma Health Assessment Questionnaire (SHAQ) score at two years both showed improvement of 50% over baseline ($p=0.01$ and $p<0.001$ respectively).
- Improvement of 20% in grip strength and 330% in pinch strength at two years ($p=0.05$ and $p=0.004$ respectively).
- Continued reduction in the number of ulcers from 15 at baseline to 9 at one year and 6 at two years.

In 2014, Drs. Guy Magalon and Brigitte Granel, under the sponsorship of the Assistance Publique - Hôpitaux de Marseille, submitted a study for review for a follow-up phase III randomized, double-blind, placebo-controlled trial in France using Cytori Cell Therapy, to be supported by Cytori. The trial name is SCLERADEC II and was approved by the French government in April 2015. Enrollment of this trial commenced in October 2015. Patients will be followed for 6 months post-procedure.

In January 2016, we entered into an agreement with Idis Managed Access, part of Clinigen Group plc, or Idis, to establish a managed access program, or MAP, in select countries across Europe, the Middle East and Africa, or EMEA, for patients with impaired hand function due to scleroderma. We established this MAP, also known as a "compassionate use," "early access" or "named patient" program, to make our ECCS-50 therapy available to patients in advance of obtaining regulatory clearance. We believe this MAP program is justified and needed based on a number of factors, including scleroderma's status as a rare disease, the favorable risk-benefit profile reported by the 12-patient, open-label SCLERADEC I clinical study results, our two scleroderma phase III trials currently enrolling, and clear unmet scleroderma patient needs. We hope to offer our ECCS-50 therapy to patients who are unable to participate in our scleroderma clinical trials, generally due to a lack of geographic proximity to a site. Beyond the benefit of helping patients in need of new therapies for scleroderma, the MAP will increase awareness of and facilitate a positive experience with Cytori Cell Therapy among healthcare providers in advance of commercialization, and will also allow for tracking and collection of key program data and documentation which will provide valuable insight regarding the demand for and use of Cytori Cell Therapy.

In April 2015, the European Commission, acting on the positive recommendation from the European Medicines Agency Committee for Orphan Medicinal Products, issued orphan drug designation to autologous adipose derived stromal vascular cells (ECCS-50) processed with the Celution System for systemic sclerosis. This designation marks the first autologous adipose derived cell therapy to be designated orphan drug status in Europe for scleroderma.

Osteoarthritis

Osteoarthritis is a disease of the entire joint involving the cartilage, joint lining, ligaments and underlying bone. The breakdown of tissue leads to pain, joint stiffness and reduced function. It is the most common form of arthritis and affects an estimated 13.9% of US adults over the age of 25, and 33.6% of U.S. adults over the age of 65. Current treatments include physical therapy, non-steroidal anti-inflammatory medications, viscosupplement injections, and total knee replacement. A substantial medical need exists as present medications have limited efficacy and joint replacement is a relatively definitive treatment for those with the most advanced disease.

In the later part of 2014, we received approval by the FDA to begin an exploratory U.S. IDE pilot (phase IIa/b) trial of Cytori Cell Therapy in patients with osteoarthritis of the knee. The trial, called ACT-OA, is a 94-patient, randomized, double-blind, placebo-controlled study involving two doses of Cytori Cell Therapy, a low dose and a high dose, and is being conducted over 48 weeks. The randomization is 1:1:1 between the control, low and high dose groups. Enrollment on this trial began in February 2015 and was completed in June 2015. The goal of this proof-of-concept trial is to help determine: (1) safety and feasibility of the ECCO-50 therapeutic for osteoarthritis, (2) provide dosing guidance and (3) explore key trial endpoints useful for a phase III trial.

A pre-specified partial unblinding and top-line analysis of 24-week data was recently completed. The objective of the analysis was to provide early data to facilitate key regulatory and business development discussions and provide better understanding of the therapeutic mechanism of action that may impact other clinical programs. The interim top-line data shows the following:

- The randomization is relatively balanced among the three treatment groups; low dose, high dose, and placebo.
- Intra-articular application of a single dose of ECCO-50 appears to be safe and feasible in an outpatient day-surgery setting. No complications occurred related to the fat harvest, cell processing or cell delivery.
- A significant placebo response was observed, similar to that demonstrated in other OA trials.
- The pre-specified primary endpoint, pain on walking at 12 weeks, as measured by a single question from the Knee Injury and Osteoarthritis Outcome Score, or KOOS, did not obtain statistical significance.
- Key secondary endpoints include the total and sub-scores of the KOOS, patient self-assessments (knee pain, knee stability, osteoarthritis activity and osteoarthritis damage), use of as-needed pain medication, pain while walking 50 feet and health status as measured by the SF-36. Consistent trends were observed suggesting improvement in the cell treated group relative to the placebo group at the 12 and 24-week time periods for patient reported outcomes; however, in general, between-group differences were small.
- Both high doses and low doses of ECCO-50 performed similarly.

In the third quarter of 2016, following full unblinding of the 48-week data, we expect to be able to fully evaluate the data including 48-week follow-up, patient subset analyses, and the effect on knee cartilage as measured by magnetic resonance imaging results changes between baseline and 48 weeks.

Stress Urinary Incontinence

Another therapeutic target under evaluation by Cytori in combination with the University of Nagoya and the Japanese MHLW is stress urinary incontinence in men following surgical removal of the prostate gland, which is based on positive data reported in a peer reviewed journal resulting from the use of adipose-derived regenerative cells processed by our Celution System. The ADRESU trial is a 45 patient, open-label, multi-center, and single arm trial that was approved by Japan's MHLW in July 2015 and is being led by both Momokazu Gotoh, MD, Ph.D., Professor and Chairman of the Department of Urology and Tokunori Yamamoto, MD, Ph.D., Associate Professor Department of Urology at University of Nagoya Graduate School of Medicine. The goal of this investigator-initiated trial will be to apply for product approval for Cytori Cell Therapy technology for this indication. This clinical trial is primarily sponsored and funded by the Japanese government. Enrollment of this trial began in September 2015.

Cutaneous and Soft Tissue Thermal and Radiation Injuries

Cytori Cell Therapy is also being developed for the treatment of thermal burns combined with radiation injury. In the third quarter of 2012, we were awarded a contract valued at up to \$106 million with BARDA to develop a medical countermeasure for thermal burns. The initial base period included \$4.7 million over two years and covered preclinical research and continued development of Cytori's Celution System to improve cell processing.

In 2014, an In-Process Review Meeting was held at which Cytori confirmed completion of the objectives of the initial phase of the contract. In August 2014, BARDA exercised contract option 1 in the amount of approximately \$12 million. In December 2014 this was supplemented with an additional \$2 million. This funded continuation of research, regulatory, clinical and other activities required for submission of an Investigational Device Exemption, or IDE, request to the FDA for a pilot clinical trial using Cytori Cell Therapy (DCCT-10) for the treatment of thermal burns. Upon receipt of IDE approval to execute this pilot clinical trial, we anticipate that BARDA will provide funding to cover costs associated with execution of the clinical trial and related activities, currently estimated at approximately \$8.3 million.

Our contract with BARDA contains two additional options to fund a pivotal clinical trial and additional preclinical work in thermal burn complicated by radiation exposure. These options are valued at up to \$45 million and \$23 million, respectively.

The total award under the BARDA contract is intended to support all clinical, preclinical, regulatory and technology development activities needed to complete the FDA approval process for use of Cytori Cell Therapy, or DCCT-10, in thermal burn injury under a device-based PMA regulatory pathway and to provide preclinical data in burn complicated by radiation exposure.

Other Clinical Indications

Heart failure due to ischemic heart disease does not represent a current clinical target and we have minimized expenses related to its initiatives in this area. The ATHENA and ATHENA II trials, which sought to evaluate the safety and feasibility of Cytori Cell Therapy in patients with heart failure due to ischemic heart disease, were truncated and we intend to use the data from these trial programs for regulatory support for our other indications and also for publication in peer reviewed forums. An abstract of the 12 month results of the ATHENA Trials has been selected by the Society of Cardiac Angiography and Interventions, or SCAI, to be presented at the SCAI 2016 Scientific Sessions.

Corporate Information

We were initially formed as a California general partnership in July 1996, and incorporated in the State of Delaware in May 1997. We were formerly known as MacroPore Biosurgery, Inc., and before that as MacroPore, Inc. Our corporate offices are located at 3020 Callan Road, San Diego, CA 92121. Our telephone number is (858) 458-0900. We maintain an Internet website at www.cytori.com. The information contained on, or that can be accessed through, our website is not part of this prospectus. Through this site, we make available free of charge our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. In addition, we publish on our website all reports filed under Section 16(a) of the Securities Exchange Act by our directors, officers and 10% stockholders. These materials are accessible via the Investor Relations—Reports and Filings section of our website within the "SEC Filings" link. Some of the information is stored directly on our website, while other information can be accessed by selecting the provided link to the section on the SEC website, which contains filings for our company and its insiders.

SUMMARY CONSOLIDATED FINANCIAL DATA

The following summary consolidated statements of operations data for the years ended December 31, 2015 and 2014 have been derived from our audited consolidated financial statements that are included in the documents incorporated by reference into this prospectus. The historical financial data presented below is not necessarily indicative of our financial results in future periods. You should read the summary consolidated financial data in conjunction with those financial statements and the accompanying notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the documents incorporated by reference into this prospectus. Our consolidated financial statements are prepared and presented in accordance with United States generally accepted accounting principles, or U.S. GAAP.

**CYTORI THERAPEUTICS, INC.
CONSOLIDATED BALANCE SHEETS**

	<u>As of December 31,</u>	
	<u>2015</u>	<u>2014</u>
Assets		
Current assets:		
Cash and cash equivalents	\$ 14,338,000	\$ 14,622,000
Accounts receivable, net of reserves of \$797,000 and of \$1,523,000 in 2015 and 2014, respectively	1,052,000	1,243,000
Inventories, net	4,298,000	4,829,000
Other current assets	<u>1,555,000</u>	<u>992,000</u>
Total current assets	21,243,000	21,686,000
Property and equipment, net	1,631,000	1,583,000
Restricted cash and cash equivalents	350,000	350,000
Other assets	1,521,000	1,763,000
Intangibles, net	9,031,000	9,415,000
Goodwill	<u>3,922,000</u>	<u>3,922,000</u>
Total assets	<u>\$ 37,698,000</u>	<u>\$ 38,719,000</u>
Liabilities and Stockholders' Equity (Deficit)		
Current liabilities:		
Accounts payable and accrued expenses	\$ 6,687,000	\$ 5,546,000
Current portion of long-term obligations, net of discount	—	7,363,000
Joint Venture purchase obligation	<u>1,750,000</u>	<u>3,008,000</u>
Total current liabilities	8,437,000	15,917,000
Warrant liability	—	9,793,000
Deferred revenues	105,000	112,000
Long-term deferred rent	269,000	558,000
Long-term obligations, net of discount, less current portion	<u>16,681,000</u>	<u>18,041,000</u>
Total liabilities	25,492,000	44,421,000
Commitments and contingencies		
Stockholders' equity:		
Series A 3.6% convertible preferred stock, \$0.001 par value; 5,000,000 shares authorized; 13,500 shares issued and no shares outstanding in 2015; 13,500 shares issued and 5,311 outstanding in 2014	—	—
Common stock, \$0.001 par value; 290,000,000 shares authorized; 195,058,395 and 99,348,377 shares issued and outstanding in 2015 and 2014, respectively	195,000	99,000
Additional paid-in capital	368,032,000	331,772,000
Accumulated other comprehensive income	996,000	700,000
Accumulated deficit	<u>(357,017,000)</u>	<u>(338,273,000)</u>
Total stockholders' equity (deficit)	<u>12,206,000</u>	<u>(5,702,000)</u>
Total liabilities and stockholders' equity (deficit)	<u>\$ 37,698,000</u>	<u>\$ 38,719,000</u>

CYTORI THERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

	For the Years Ended December 31,		
	2015	2014	2013
Product revenues:			
Related party	\$ —	\$ —	\$ 1,845,000
Third party	4,838,000	4,953,000	5,277,000
	<u>4,838,000</u>	<u>4,953,000</u>	<u>7,122,000</u>
Cost of product revenues	<u>3,186,000</u>	<u>2,940,000</u>	<u>3,421,000</u>
Gross profit	<u>1,652,000</u>	<u>2,013,000</u>	<u>3,701,000</u>
Development revenues:			
Development, related party	—	—	638,000
Development	—	—	1,179,000
Government contracts and other	6,821,000	2,645,000	3,257,000
	<u>6,821,000</u>	<u>2,645,000</u>	<u>5,074,000</u>
Operating expenses:			
Research and development	19,000,000	15,105,000	17,065,000
Sales and marketing	2,662,000	6,406,000	9,026,000
General and administrative	9,765,000	15,953,000	16,031,000
Change in fair value of warrants	(7,668,000)	(369,000)	(418,000)
Change in fair value of option liability	—	—	(2,250,000)
	<u>23,759,000</u>	<u>37,095,000</u>	<u>39,454,000</u>
Total operating expenses	<u>23,759,000</u>	<u>37,095,000</u>	<u>39,454,000</u>
Operating loss	<u>(15,286,000)</u>	<u>(32,437,000)</u>	<u>(30,679,000)</u>
Other income (expense):			
Gain (loss) on asset disposal	3,000	42,000	(257,000)
Loss on debt extinguishment	(260,000)	—	(708,000)
Interest income	9,000	6,000	4,000
Interest expense	(3,379,000)	(4,371,000)	(3,396,000)
Other income (expense), net	169,000	(608,000)	(438,000)
Gain on Puregraft divestiture	—	—	4,453,000
Gain on previously held equity interest in joint venture	—	—	4,892,000
Equity loss from investment in joint venture	—	—	(48,000)
	<u>(3,458,000)</u>	<u>(4,931,000)</u>	<u>4,502,000</u>
Total other income (expense)	<u>(3,458,000)</u>	<u>(4,931,000)</u>	<u>4,502,000</u>
Net loss	(18,744,000)	(37,368,000)	(26,177,000)
Beneficial conversion feature for convertible preferred stock	(661,000)	(1,169,000)	—
Net loss allocable to common stockholders	<u>(19,405,000)</u>	<u>(38,537,000)</u>	<u>(26,177,000)</u>
Basic and diluted net loss per share allocable to common stockholders	<u>\$ (0.14)</u>	<u>\$ (0.48)</u>	<u>\$ (0.39)</u>
Basic and diluted weighted average shares used in calculating net loss per share allocable to common stockholders	<u>140,797,316</u>	<u>80,830,698</u>	<u>67,781,364</u>
Comprehensive loss:			
Net loss	\$ (18,744,000)	\$ (37,368,000)	\$ (26,177,000)
Other comprehensive income – foreign currency translation adjustments	296,000	444,000	256,000
Comprehensive loss	<u>\$ (18,448,000)</u>	<u>\$ (36,924,000)</u>	<u>\$ (25,921,000)</u>

SUMMARY OF THE RIGHTS OFFERING

Securities to be offered We are distributing to you, at no charge, one non-transferable Subscription Right to purchase one Unit for every shares of our common stock that you owned on the Record Date. Each Unit consists of one share of common stock and of a Warrant to purchase one share of common stock.

Size of offering Units.
Subscription Price \$ per Unit.

Warrants Each whole Warrant entitles the holder to purchase one share of common stock at an exercise price of \$ per share from the date of issuance through its expiration two years from the date of issuance. The Warrants will be exercisable for cash, or, solely during any period when a registration statement for the exercise of the Warrants is not in effect, on a cashless basis. We have applied to list, the Warrants on NASDAQ under the symbol "CYTXW," although there is no assurance that a sufficient number of Subscription Rights will be exercised so that the Warrants will meet the minimum listing criteria to be accepted for listing on NASDAQ. We may redeem the Warrants for \$0.01 per Warrant if our common stock closes above \$ per share for 10 consecutive trading days.

Record Date 5:00 p.m., Eastern Time, May , 2016.

Basic Subscription Rights Your Basic Subscription Right will entitle you to purchase one Unit at the Subscription Price.

Over-Subscription Privilege If you exercise your Basic Subscription Rights in full, you may also choose to purchase a portion of any Units that are not purchased by our other stockholders through the exercise of their Basic Subscription Rights, subject to proration and stock ownership limitations described elsewhere.

Expiration date The Subscription Rights will expire at 5:00 p.m., Eastern Time, on , 2016.

Procedure for exercising Subscription Rights To exercise your Subscription Rights, you must take the following steps:

If you are a record holder of our common stock or a holder of warrants, you must deliver payment and a properly completed Rights Certificate to the Subscription Agent to be received before 5:00 p.m., Eastern Time, on , 2016. You may deliver the documents and payments by first class mail or courier service. If you use first class mail for this purpose, we recommend using registered mail, properly insured, with return receipt requested.

If you are a beneficial owner of shares that are registered in the name of a broker, dealer, bank, or other nominee, you should instruct your broker, dealer, bank, or other nominee to exercise your Subscription Rights on your behalf. Please follow the instructions of your nominee, who may require that you meet a deadline earlier than 5:00 p.m., Eastern Time, on , 2016.

Delivery of shares and Warrants As soon as practicable after the expiration of the Rights Offering, the Subscription Agent will arrange for the issuance of the shares of common stock and Warrants purchased pursuant to the Rights Offering. All shares and Warrants that are purchased in the Rights Offering will be issued in book-entry, or uncertificated, form meaning that you will receive a direct registration, or DRS, account statement from our transfer agent reflecting ownership of these securities if you are a holder of record of shares or warrants. If you hold your shares in the name of a bank, broker, dealer, or other nominee, DTC will credit your account with your nominee with the securities you purchased in the Rights Offering.

Non-transferability of Subscription Rights	The Subscription Rights may not be sold, transferred, assigned or given away to anyone. The Subscription Rights will not be listed for trading on any stock exchange or market.
Transferability of Warrants	The Warrants will be separately transferable following their issuance and through their expiration two years from the issuance date.
No board recommendation	Our board of directors is not making a recommendation regarding your exercise of the Subscription Rights. You are urged to make your decision to invest based on your own assessment of our business and financial condition, our prospects for the future, the terms of the Rights Offering, the information in this prospectus and other information relevant to your circumstances. Please see "Risk Factors" for a discussion of some of the risks involved in investing in our securities.
No revocation	All exercises of Subscription Rights are irrevocable, even if you later learn of information that you consider to be unfavorable to the exercise of your Subscription Rights.
Use of proceeds	Assuming the exercise of Subscription Rights to purchase all Units of the Rights Offering, after deducting fees and expenses and excluding any proceeds received upon exercise of any Warrants, we estimate the net proceeds of the Rights Offering will be approximately \$ million. We intend to use approximately half of the 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. In addition, we intend to use approximately half of the 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. See "Use of Proceeds."
Material U.S. federal income tax consequences	For U.S. federal income tax purposes, we do not believe you should recognize income or loss upon receipt or exercise of a Subscription Right. You should consult your own tax advisor as to the tax consequences of the Rights Offering in light of your particular circumstances. See "Material U.S. Federal Income Tax Consequences."
Extension and termination	Although we do not presently intend to do so, we may extend the Rights Offering for additional time in the sole discretion of the Company and Maxim. Our board of directors may for any reason terminate the Rights Offering at any time before the completion of the Rights Offering.
Subscription and Information Agent	Broadridge Corporate Issuer Solutions, Inc.
Questions	If you have any questions about the Rights Offering, please contact the Subscription and Information Agent, Broadridge Corporate Issuer Solutions, Inc., at (855) 793-5068 (toll free).
Market for common stock	Our common stock is listed on NASDAQ under the symbol "CYTX."
Dealer-Manager	Maxim Group LLC.

RISK FACTORS

Investing in our securities involves a high degree of risk. Before making an investment decision with respect to our securities, we urge you to carefully consider the risks described in the "Risk Factors" section of our Annual Report on Form 10-K for the year ended December 31, 2015, which is incorporated by reference into this prospectus. These risk factors relate to our business, intellectual property, regulatory matters, and ownership of our common stock. In addition, the following risk factors present material risks and uncertainties associated with the Rights Offering. The risks and uncertainties incorporated by reference into this prospectus or described below are not the only ones we face. Additional risks and uncertainties not presently known or which we consider immaterial as of the date hereof may also have an adverse effect on our business. If any of the matters discussed in the following risk factors were to occur, our business, financial condition, results of operations, cash flows or prospects could be materially adversely affected, the market price of our securities could decline and you could lose all or part of your investment in our securities.

Risks Related to the Rights Offering

There is currently a limited market for our securities, and any trading market that exists in our securities may be highly illiquid and may not reflect the underlying value of our net assets or business prospects.

Although our common stock is traded on the NASDAQ Capital Market, there is currently a limited market for our common stock and an active market may never develop. Investors are cautioned not to rely on the possibility that an active trading market may develop. In addition, the Subscription Rights are non-transferrable.

We could be delisted from NASDAQ, which could seriously harm the liquidity of our stock and our ability to raise capital.

Following notice from the NASDAQ staff in June 2015 and December 2015, we had a hearing in January 2016 relating to our noncompliance with the \$1 minimum bid price per share requirement. The Nasdaq Hearing Panel granted us until May 31, 2016 to come into compliance with the minimum bid price requirement, including requirements relating to obtaining stockholders approval of a reverse stock split that would bring our stock price above \$1 per share for a minimum of ten consecutive trading days. We transferred the listing of our common stock from the Nasdaq Global Market, or NGM, to the Nasdaq Capital Market, or NCM, in February 2016.

We may be unable to regain compliance with the minimum bid price requirement or maintain compliance with the other listing requirements, and we may not be eligible for listing on the NGM, NCM or any comparable trading market. We have committed to consummate a reverse stock split at our annual stockholder meeting (unless our stock price organically rises above \$1 and cures our bid price deficiency), which could be unfavorably received by the market and could further depress the market for our shares. A reverse stock split, if consummated, may not cure, in the short-term or long-term, our listing deficiency. If we cease to be eligible to trade on either the NGM or NCM:

- We may have to pursue trading on a less recognized or accepted market, such as the OTC Bulletin Board or the "pink sheets."

- The trading price of our common stock could suffer, including an increased spread between the "bid" and "asked" prices quoted by market makers.
- Shares of our common stock could be less liquid and marketable, thereby reducing the ability of stockholders to purchase or sell our shares as quickly and as inexpensively as they have done historically. If our stock is traded as a "penny stock," transactions in our stock would be more difficult and cumbersome.
- We may be unable to access capital on favorable terms or at all, as companies trading on alternative markets may be viewed as less attractive investments with higher associated risks, such that existing or prospective institutional investors may be less interested in, or prohibited from, investing in our common stock. This may also cause the market price of our common stock to decline.

Our share price is volatile, and you may not be able to resell our shares at a profit or at all.

The market price of our common stock could be subject to wide fluctuations in response to numerous factors, some of which are beyond our control. These factors include, among other things:

- fluctuations in our operating results or the operating results of our competitors;
- changes in estimates of our financial results or recommendations by securities analysts;
- variance in our financial performance from the expectations of securities analysts;
- changes in the estimates of the future size and growth rate of our markets;
- changes in accounting principles or changes in interpretations of existing principles, which could affect our financial results;
- conditions and trends in the markets we serve;
- changes in general economic, industry and market conditions;
- success of competitive products and services;
- changes in market valuations or earnings of our competitors;
- announcements of significant new products, contracts, acquisitions or strategic alliances by us or our competitors;
- the outcome of clinical trials involving the use of our products, including our sponsored trials;
- our continuing ability to list our securities on an established market or exchange;
- the timing and outcome of regulatory reviews and approvals of our products;
- the commencement or outcome of litigation involving our company, our general industry or both;
- changes in our capital structure, such as future issuances of securities or the incurrence of additional debt;
- actual or expected sales of our common stock by the holders of our common stock; and
- the trading volume of our common stock.

The market price of our common stock may decline after you elect to exercise your subscription rights. If that occurs, you may have committed to buy shares of our common stock in the rights offering at a price greater than the prevailing market price, and could have an immediate unrealized loss. Moreover, following the exercise of your subscription rights you may not be able to sell your common stock at a price equal to or greater than the Subscription Price. Until shares are delivered upon expiration of the Rights Offering, you will not be able to sell the shares of our common stock that you purchase in the Rights Offering. We will not pay you interest on funds delivered to the subscription agent pursuant to the exercise of subscription rights.

We may be or become the target of securities litigation, which is costly and time-consuming to defend.

In the past, following periods of market volatility in the price of a company's securities or the reporting of unfavorable news, security holders have often instituted class action litigation. If the market value of our securities experience adverse fluctuations and we become involved in this type of litigation, regardless of the outcome, we could incur substantial legal costs and our management's attention could be diverted from the operation of our business, causing our business to suffer.

There may be future sales or other dilution of our equity, which may adversely affect the market price of our common stock.

We are generally not restricted from issuing additional common stock, including any securities that are convertible into or exchangeable for, or that represent the right to receive, common stock. The market price of our common stock could decline as a result of sales of common stock or securities that are convertible into or exchangeable for, or that represent the right to receive, common stock after this offering or the perception that such sales could occur. In addition, anti-dilution provisions contained in our outstanding warrants, as well as the anti-dilution provisions contained in the Warrants forming a part of the Units, may significantly increase the dilutive effect of other issuances of securities by us.

We presently do not intend to pay cash dividends on our common stock.

We have never paid cash dividends in the past, and we currently anticipate that no cash dividends will be paid on the common stock in the foreseeable future. Furthermore, our loan agreement with Oxford Finance LLC and Silicon Valley Bank, or the Lenders, currently prohibits our issuance of cash dividends. This could make an investment in our company inappropriate for some investors, and may serve to narrow our potential sources of additional capital. While our dividend policy will be based on the operating results and capital needs of the business, it is anticipated that all earnings, if any, will be retained to finance the future expansion of our business.

Our stockholders may experience substantial dilution in the value of their investment if we issue additional shares of our capital stock.

Our charter allows us to issue up to 290,000,000 shares of our common stock and to issue and designate the rights of, without stockholder approval, up to 5,000,000 shares of preferred stock. In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may not be the same as the price per share paid by other investors, and dilution to our stockholders could result. We may sell shares or other securities in any other offering at a price per share that is less than the price per share paid by investors, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock, or securities convertible or exchangeable into common stock, in future transactions may be higher or lower than the price per share paid by other investors.

We may issue debt and equity securities or securities convertible into equity securities, any of which may be senior to our common stock as to distributions and in liquidation, which could negatively affect the value of our common stock.

In the future, we may attempt to increase our capital resources by entering into debt or debt-like financing that is unsecured or secured by up to all of our assets, or by issuing additional debt or equity securities, which could include issuances of secured or unsecured commercial paper, medium-term notes, senior notes, subordinated notes, guarantees, preferred stock, hybrid securities, or securities convertible into or exchangeable for equity securities. In the event of our liquidation, our lenders and holders of our debt and preferred securities would receive distributions of our available assets before distributions to the holders of our common stock. Because our decision to incur debt and issue securities in future offerings may be influenced by market conditions and other factors beyond our control, we cannot predict or estimate the amount, timing or nature of our future offerings or debt financings. Further, market conditions could require us to accept less favorable terms for the issuance of our securities in the future.

Our management will have broad discretion over the use of the net proceeds from this offering, you may not agree with how we use the proceeds and the proceeds may not be invested successfully.

Our management will have broad discretion as to the use of the net proceeds from this offering and could use them for purposes other than those contemplated at the time of commencement of this offering. Accordingly, you will be relying on the judgment of our management with regard to the use of these net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. It is possible that, pending their use, we may invest the net proceeds in a way that does not yield a favorable, or any, return for us. The failure of our management to use such funds effectively could have a material adverse effect on our business, financial condition, operating results and cash flows.

Your interest in our company may be diluted as a result of this Rights Offering.

Stockholders who do not fully exercise their Subscription Rights should expect that they will, at the completion of this offering, own a smaller proportional interest in our company than would otherwise be the case had they fully exercised their Subscription Rights. Further, the shares issuable upon the exercise of the Warrants to be issued pursuant to the Rights Offering will dilute the ownership interest of stockholders not participating in this offering or holders of Warrants who have not exercised them.

Further, because the price per Unit being offered may be substantially higher than the net tangible book value per share of our common stock, you may suffer substantial dilution in the net tangible book value of the common stock you purchase in this offering. If you purchase Units in this offering at the Subscription Price, you may suffer immediate and substantial dilution in the net tangible book value of the common stock. See "Dilution" in this prospectus for a more detailed discussion of the dilution which may incur in connection with this offering.

Completion of the Rights Offering is not subject to us raising a minimum offering amount.

Completion of the Rights Offering is not subject to us raising a minimum offering amount and, therefore, proceeds may be insufficient to meet our objectives, thereby increasing the risk to investors in this offering, including investing in a company that continues to require capital. See "Use of Proceeds."

This Rights Offering may cause the trading price of our common stock to decrease.

The Subscription Price, together with the number of shares of common stock we propose to issue and ultimately will issue if this Rights Offering is completed, may result in an immediate decrease in the market price of our common stock. This decrease may continue after the completion of this Rights Offering. If that occurs, you may have committed to buy shares of common stock in the Rights Offering at a price greater than the prevailing market price. We cannot predict the effect, if any, that the availability of shares for future sale represented by the Warrants issued in connection with the Rights Offering will have on the market price of our common stock from time to time. Further, if a substantial number of Subscription Rights are exercised and the holders of the shares received upon exercise of those Subscription Rights or the related Warrants choose to sell some or all of the shares underlying the Subscription Rights or the related Warrants, the resulting sales could depress the market price of our common stock. Following the exercise of your Subscription Rights you may not be able to sell your common stock at a price equal to or greater than the Subscription Price.

You could be committed to buying shares of common stock above the prevailing market price.

Once you exercise your Subscription Rights, you may not revoke such exercise even if you later learn information that you consider to be unfavorable to the exercise of your Subscription Rights. The market price of our shares of common stock may decline prior to the expiration of this offering or a Subscribing Rights holder may not be able to sell shares of common stock purchased in this offering at a price equal to or greater than the Subscription Price. Until shares of our common stock are delivered upon expiration of the Rights Offering, you will not be able to sell or transfer the shares of our common stock that you purchase in the Rights Offering. Any such delivery will occur as soon as practicable after the Rights Offering has expired, payment for the shares of common stock and attached Warrants subscribed for has cleared, and all prorating calculations and reductions contemplated by the terms of the Rights Offering have been effected.

If we terminate this offering for any reason, we will have no obligation other than to return subscription monies within 10 business days.

We may decide, in our sole discretion and for any reason, to cancel or terminate the Rights Offering at any time prior to the expiration date. If this offering is cancelled or terminated, we will have no obligation with respect to Subscription Rights that have been exercised except to return within 10 business days, without interest or deduction, all subscription payments deposited with the Subscription Agent. If we terminate this offering and you have not exercised any Subscription Rights, such Subscription Rights will expire and be worthless.

The Subscription Price determined for this offering is not an indication of the fair value of our common stock.

In determining the Subscription Price, our board of directors considered a number of factors, including, but not limited to, our need to raise capital in the near term to continue our operations, the current and historical trading prices of our common stock, a price that would increase the likelihood of participation in the Rights Offering, the cost of capital from other sources, the value of the Warrant being issued as a component of the Unit, comparable precedent transactions, an analysis of stock price trading multiples for companies similar to us that, among other things, did not need to raise capital in the near-term, and our most recently forecasted revenue relative to our peer group. The Subscription Price does not necessarily bear any relationship to any established criteria for value. No valuation consultant or investment banker has opined upon the fairness or adequacy of the Subscription Price. You should not consider the Subscription Price as an indication of the value of our Company or our common stock. After the date of this prospectus, our common stock may trade at prices above or below the Subscription Price.

If you do not act on a timely basis and follow subscription instructions, your exercise of Subscription Rights may be rejected.

Holders of Subscription Rights who desire to purchase shares of our common stock and attached Warrants in this offering must act on a timely basis to ensure that all required forms and payments are actually received by the Subscription Agent prior to 5:00 p.m., New York City time, on the expiration date, unless extended. If you are a beneficial owner of shares of common stock and you wish to exercise your Subscription Rights, you must act promptly to ensure that your broker, dealer, bank, trustee or other nominee acts for you and that all required forms and payments are actually received by your broker, dealer, bank, trustee or other nominee in sufficient time to deliver such forms and payments to the Subscription Agent to exercise the Subscription Rights granted in this offering that you beneficially own prior to 5:00 p.m., New York City time on the expiration date, as may be extended. We will not be responsible if your broker, dealer, bank, trustee or other nominee fails to ensure that all required forms and payments are actually received by the Subscription Agent prior to 5:00 p.m., New York City time, on the expiration date.

If you fail to complete and sign the required subscription forms, send an incorrect payment amount, or otherwise fail to follow the subscription procedures that apply to your exercise in this Rights Offering, the Subscription Agent may, depending on the circumstances, reject your subscription or accept it only to the extent of the payment received. Neither we nor the Subscription Agent undertakes to contact you concerning an incomplete or incorrect subscription form or payment, nor are we under any obligation to correct such forms or payment. We have the sole discretion to determine whether a subscription exercise properly follows the subscription procedures.

You may not receive all of the Units for which you subscribe.

Holders who fully exercise their Basic Subscription Rights will be entitled to subscribe for an additional number of Units. Over-Subscription Privileges will be allocated pro rata among Rights holders who over-subscribed, based on the number of over-subscription Units to which they have subscribed. We cannot guarantee that you will receive any or the entire amount of Units for which you over-subscribed. If the prorated amount of Units allocated to you in connection with your Over-Subscription Privilege is less than your Over-Subscription Request, then the excess funds held by the Subscription Agent on your behalf will be returned to you, without interest, as soon as practicable after the Rights Offering has expired and all prorating calculations and reductions contemplated by the terms of the Rights Offering have been effected, and we will have no further obligations to you.

Unless we otherwise agree in writing, a person or entity, together with related persons or entities, may not exercise Subscription Rights (including Over-Subscription Privileges) to purchase Units that, when aggregated with their existing ownership, would result in such person or entity, together with any related persons or entities, owning in excess of 19.9% of our issued and outstanding shares of common stock following the closing of the transactions contemplated by this Rights Offering. If the amount of shares allocated to you is less than your subscription request, then the excess funds held by the Subscription Agent on your behalf will be returned to you, without interest, as soon as practicable after the Rights Offering has expired and all prorating calculations and reductions contemplated by the terms of the Rights Offering have been effected, and we will have no further obligations to you.

If you make payment of the Subscription Price by personal check, your check may not clear in sufficient time to enable you to purchase shares in this Rights Offering.

Any personal check used to pay for shares and Warrants to be issued in this Rights Offering must clear prior to the expiration date of this Rights Offering, and the clearing process may require five or more business days. If you choose to exercise your Subscription Rights, in whole or in part, and to pay for shares and Warrants by personal check and your check has not cleared prior to the expiration date of this Rights Offering, you will not have satisfied the conditions to exercise your Subscription Rights and will not receive the shares and Warrants you wish to purchase.

The receipt of Subscription Rights may be treated as a taxable distribution to you.

We believe the distribution of the Subscription Rights in this Rights Offering should be a non-taxable distribution to holders of shares of common stock under Section 305(a) of the Internal Revenue Code of 1986, as amended (the "Code"). Please see the discussion on the "Material U.S. Federal Income Tax Consequences" below. This position is not binding on the IRS, or the courts, however. If this Rights Offering is deemed to be part of a "disproportionate distribution" under Section 305 of the Code, your receipt of Subscription Rights in this offering may be treated as the receipt of a taxable distribution to you equal to the fair market value of the Subscription Rights. Any such distribution would be treated as dividend income to the extent of our current and accumulated earnings and profits, if any, with any excess being treated as a return of capital to the extent thereof and then as capital gain. Each holder of shares of common stock and each holder of a warrant providing for participation is urged to consult his, her or its own tax advisor with respect to the particular tax consequences of this Rights Offering.

Exercising the Subscription Rights limits your ability to engage in certain hedging transactions that could provide you with financial benefits.

By exercising the Subscription rights, you are representing to us that you have not entered into any short sale or similar transaction with respect to our Common Stock since the record date for the Rights Offering. In addition, the Subscription Rights provide that, upon exercise of the Subscription Right, you agree not to enter into any short sale or similar transaction with respect to our Common Stock for so long as you continue to hold Warrants issued in connection with the exercise of the Subscription Right. These requirements prevent you from pursuing certain investment strategies that could provide you greater financial benefits than you might have realized if the Subscription Rights did not contain these requirements.

The Subscription Rights are not transferable, and there is no market for the Subscription Rights.

You may not sell, transfer, assign or give away your Subscription Rights. Because the Subscription Rights are non-transferable, there is no market or other means for you to directly realize any value associated with the Subscription Rights. You must exercise the Subscription Rights to realize any potential value from your Subscription Rights.

Absence of a public trading market for the Warrants may limit your ability to resell the Warrants.

There is no established trading market for the Warrants to be issued pursuant to this offering, and the Warrants may not be widely distributed. We have applied to list the Warrants for trading on NASDAQ under the symbol "CYTXW," but there can be no assurance that a sufficient number of Subscription Rights will be exercised so that the Warrants will meet minimum listing criteria to be accepted for listing on NASDAQ or that a market will develop for the Warrants. Even if a market for the Warrants does develop, the price of the Warrants may fluctuate and liquidity may be limited. If the Warrants are not accepted for listing on NASDAQ or if a market for the Warrants does not develop, then purchasers of the Warrants may be unable to resell the Warrants or sell them only at an unfavorable price for an extended period of time, if at all. Future trading prices of the Warrants will depend on many factors, including:

- our operating performance and financial condition;
- our ability to continue the effectiveness of the registration statement, of which this prospectus is a part, covering the Warrants and the common stock issuable upon exercise of the Warrants;
- the interest of securities dealers in making a market; and
- the market for similar securities.

The market price of our common stock may never exceed the exercise price of the Warrants issued in connection with this offering.

The Warrants being issued in connection with this offering become exercisable upon issuance and will expire two years after issuance. The market price of our common stock may never exceed the exercise price of the Warrants prior to their date of expiration. Any Warrants not exercised by their date of expiration will expire worthless and we will be under no further obligation to the Warrant holder.

The Warrants contain features that may make reduce your economic benefit from owning them.

The Warrants contain features that allow us to redeem the Warrants and that prohibit you from engaging in certain investment strategies. We may redeem the Warrants for \$0.01 per Warrant once the closing price of our common stock has equaled or exceeded \$ per share, subject to adjustment, for 10 consecutive trading days. If we give notice of redemption, you will be forced to sell or exercise your Warrants or accept the redemption price. The notice of redemption could come at a time when it is not advisable or possible for you to exercise the Warrants. As a result, you may be unable to benefit from owning the Warrants being redeemed. In addition, for so long as you continue to hold Warrants, you will not be permitted to enter into any short sale or similar transaction with respect to our Common Stock. This could prevent you from pursuing investment strategies that could provide you greater financial benefits from owning the Warrant.

The dealer-manager is not underwriting, nor acting as placement agent of, the Subscription Rights or the securities underlying the Subscription Rights.

Maxim Group LLC will act as dealer-manager for this Rights Offering. As provided in the dealer-manager agreement, the dealer-manager will provide marketing assistance in connection with this offering. The dealer-manager is not underwriting or placing any of the Subscription Rights or the shares of our common stock or Warrants being issued in this offering and is not making any recommendation with respect to such Subscription Rights (including with respect to the exercise or expiration of such Subscription Rights), shares or Warrants. The dealer-manager will not be subject to any liability to us in rendering the services contemplated by the dealer-manager agreement except for any act of bad faith or gross negligence by the dealer-manager. The Rights Offering may not be successful despite the services of the dealer-manager to us in this offering.

Since the Warrants are executory contracts, they may have no value in a bankruptcy or reorganization proceeding.

In the event a bankruptcy or reorganization proceeding is commenced by or against us, a bankruptcy court may hold that any unexercised Warrants are executory contracts that are subject to rejection by us with the approval of the bankruptcy court. As a result, holders of the Warrants may, even if we have sufficient funds, not be entitled to receive any consideration for their Warrants or may receive an amount less than they would be entitled to if they had exercised their Warrants prior to the commencement of any such bankruptcy or reorganization proceeding.

FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated herein by reference contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are based on our management's current beliefs, expectations and assumptions about future events, conditions and results and on information currently available to us. Discussions containing these forward-looking statements may be found, among other places, in the Sections entitled "Business," "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" incorporated by reference from our most recent Annual Report on Form 10-K and in our Quarterly Reports on Form 10-Q, as well as any amendments thereto, filed with the SEC.

All statements, other than statements of historical fact, included or incorporated herein regarding our strategy, future operations, financial position, future revenues, projected costs, plans, prospects and objectives are forward-looking statements. Words such as "expect," "anticipate," "intend," "plan," "believe," "seek," "estimate," "think," "may," "could," "will," "would," "should," "continue," "potential," "likely," "opportunity" and similar expressions or variations of such words are intended to identify forward-looking statements, but are not the exclusive means of identifying forward-looking statements. Additionally, forward-looking statements include statements concerning future matters such as our anticipated expenditures, including those related to clinical research studies and general and administrative expenses, the potential size of the market for our products, future development and/or expansion of our products and therapies in our markets, our ability to generate product revenues or effectively manage our gross profit margins, our ability to obtain regulatory clearance, expectations as to our future performance, liquidity and capital resources, including our potential need for additional financing and the availability thereof, and the potential enhancement of our cash position through development, marketing, and licensing arrangements. Such statements are based on currently available operating, financial and competitive information and are subject to various risks, uncertainties and assumptions that could cause actual results to differ materially from those anticipated or implied in our forward-looking statements due to a number of factors including, but not limited to, our need and ability to raise additional cash, our joint ventures, risks associated with laws or regulatory requirements applicable to us, market conditions, product performance, potential litigation, competition within the regenerative medicine field, and other factors set forth above under the section entitled "Risk Factors" in this prospectus and any accompanying prospectus supplement. Given these risks, uncertainties and other factors, many of which are beyond our control, you should not place undue reliance on these forward-looking statements.

Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to revise any forward-looking statements to reflect events or developments occurring after the date of this prospectus, even if new information becomes available in the future.

USE OF PROCEEDS

Assuming that all Units are subscribed for in the Rights Offering, we estimate that the net proceeds from the Rights Offering will be approximately \$ million, based on the Subscription Price of \$ per Unit, after deducting expenses relating to this offering payable by us estimated at approximately \$ million, including dealer-manager fees and expenses and excluding any proceeds received upon exercise of any Warrants.

We intend to use approximately half of the 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. In addition, we intend to use approximately half of the 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. Any proceeds received by us from the exercise of Warrants will be used for the same purposes and in the same manner. Pending these uses, we intend to invest the net proceeds in investment-grade, short-term, interest-bearing securities. It is possible that, pending their use, we may invest the net proceeds in a way that does not yield a favorable, or any, return for us.

Our management will have broad discretion as to the allocation of the net proceeds from this offering and could use them for purposes other than those contemplated at the time of commencement of this offering.

DILUTION

Purchasers of our common stock contained in the Units sold in the Rights Offering (and upon exercise of the Warrants contained in the Units) will experience an immediate dilution of the net tangible book value per share of our common stock. Our net tangible book value as of December 31, 2015 was approximately \$(0.7) million, or \$0.00 per share of our common stock (based upon 195,058,395 shares of our common stock outstanding). Net tangible book value per share is equal to our total tangible assets less our total liabilities, divided by the number of shares of our outstanding common stock.

Dilution per share of common stock equals the difference between the subscription price per Unit paid by purchasers in the Rights Offering (ascribing no value to the Warrants contained in the Units) and the net tangible book value per share of our common stock immediately after the Rights Offering.

Based on the sale by us in this Rights Offering of a maximum of Units (consisting of shares of our common stock and Warrants to purchase an aggregate of shares of common stock upon exercise), at the Subscription Price of \$ per Unit, and after deducting estimated offering expenses and dealer-manager fees and expenses payable by us and assuming no exercise of the Warrants, our pro forma net tangible book value as of December 31, 2015 would have been approximately \$, or \$ per share. This represents an immediate increase in pro forma net tangible book value to existing stockholders of \$ per share and an immediate dilution to purchasers in the Rights Offering of \$ per share. The following table illustrates this per-share dilution:

Subscription Price		\$
Net tangible book value per share as of December 31, 2015	\$	0.00
Increase in net tangible book value per share attributable to Rights Offering		
Pro forma net tangible book value per share as of December 31, 2015, after giving effect to Rights Offering		
Dilution in net tangible book value per share to purchasers in the Rights Offering		\$

The information above is as of December 31, 2015 and excludes:

- 8,605,905 shares of common stock issuable upon the exercise of stock options outstanding as of December 31, 2015 with a weighted average exercise price of \$2.99 per share;
- 467,941 shares of common stock issuable upon the vesting of outstanding restricted stock awards;
- 5,576,623 shares of common stock available for future grants under our 2014 Equity Incentive Plan as of December 31, 2015; and
- 1,000,000 shares of common stock available for future grants under our 2015 New Employee Incentive Plan as of December 31, 2015; and
- 3,275,693 shares of our common stock issuable upon the exercise of outstanding warrants as of December 31, 2015 with a weighted-average exercise price of \$1.48 per share.

MARKET PRICE OF OUR COMMON STOCK AND RELATED STOCKHOLDER MATTERS

From August 2000 (our initial public offering in Germany) until September 2007 our common stock was quoted on the Frankfurt Stock Exchange under the symbol "XMPA" (formerly XMP). In September 2007 our stock closed trading on the Frankfurt Stock Exchange. In December 2005, our common stock commenced trading on NASDAQ under the symbol "CYTX." From December 2005 until February 2006 our common stock traded on the NCM, from February 2006 until February 2016 it traded on the NGM, and since February 2016 it has traded on the NCM. Our common stock has, from time to time, traded on a limited, sporadic and volatile basis. The following tables show the high and low sales prices for our common stock for the periods indicated, as reported by NASDAQ. These prices do not include retail markups, markdowns or commissions.

	Price Ranges	
	High	Low
<i>Fiscal Year Ended December 31, 2016</i>		
First Quarter	0.24	0.128
Second Quarter (through April 5, 2016)	0.255	0.21
<i>Fiscal Year Ended December 31, 2015</i>		
First Quarter	1.37	0.44
Second Quarter	1.35	0.56
Third Quarter	0.55	0.30
Fourth Quarter	0.42	0.19
<i>Fiscal Year Ended December 31, 2014</i>		
First Quarter	3.47	2.44
Second Quarter	2.88	2.14
Third Quarter	2.52	0.66
Fourth Quarter	0.70	0.36

The closing price of our common stock on April 5, 2016 was \$0.23 per share. All of our outstanding shares have been deposited with the Depository Trust & Clearing Corporation, or DTCC, since December 2005. As of January 31, 2016, we had approximately 21 record holders of our common stock. Because many of our shares are held by brokers and other institutions on behalf of stockholders, we are unable to estimate the total number of individual stockholders represented by these record holders.

DIVIDEND POLICY

We have never paid cash dividends on our common stock in the past and we currently anticipate that no cash dividends will be paid on common stock in the foreseeable future. Furthermore, our loan agreement with Oxford Finance LLC currently prohibits our issuance of cash dividends. We expect as of the date hereof to retain any future earnings to fund the operation and expansion of our business.

The Subscription Rights

We are distributing to the record holders of our common stock, at no charge, non-transferable Subscription Rights to purchase one Unit at a subscription price of \$ _____ per Unit. Each Basic Subscription Right will entitle you to purchase one share of our common stock and _____ of a Warrant representing the right to purchase one share of our common stock at an exercise price of \$ _____ per share from the date of issuance through the expiration two years from the date of issuance. Each record holder of our common stock will receive one Subscription Right for every _____ shares of our common stock owned by such record holder as of the Record Date. Each Subscription Right entitles the record holder to a Basic Subscription Right and an Over-Subscription Privilege.

Basic Subscription Rights

Your Basic Subscription Rights will entitle you to purchase one share of our common stock and _____ of a Warrant to purchase one share of our common stock. For example, if you owned 100 shares of common stock as of the Record Date, you will receive _____ Subscription Rights and will have the right to purchase _____ shares of our common stock and Warrants to purchase _____ shares of our common stock for \$ _____ per whole Unit, or a total payment of \$ _____. You may exercise all or a portion of your Basic Subscription Rights, or you may choose not to exercise any of your Basic Subscription Rights. If you do not exercise your Basic Subscription Rights in full, you will not be entitled to exercise your Over-Subscription Privilege.

Over-Subscription Privilege

If you exercise your Basic Subscription Rights in full, you may also choose to exercise your Over-Subscription Privilege. Subject to proration and stock ownership limitations, if applicable, we will seek to honor the Over-Subscription Privilege requests in full. If Over-Subscription Privilege requests exceed the number of Units available, however, we will allocate the available Units pro rata among the stockholders as of the record date exercising the Over-Subscription Privilege in proportion to the number of shares of our common stock each of those stockholders owned on the Record Date, relative to the number of shares owned on the Record Date by all stockholders as of the record date exercising the Over-Subscription Privilege. If this pro rata allocation results in any stockholder receiving a greater number of Units than the record holder subscribed for pursuant to the exercise of the Over-Subscription Privilege, then such record holder will be allocated only that number of Units for which the record holder oversubscribed, and the remaining Units will be allocated among all other stockholders exercising the Over-Subscription Privilege on the same pro rata basis described above. The proration process will be repeated until all Units have been allocated.

Broadridge Corporate Issuer Solutions, Inc., the Subscription Agent for the Rights Offering, will determine the over-subscription allocation based on the formula described above.

To the extent the aggregate subscription payment of the actual number of unsubscribed Units available to you pursuant to the Over-Subscription Privilege is less than the amount you actually paid in connection with the exercise of the Over-Subscription Privilege, you will be allocated only the number of unsubscribed Units available to you, and any excess subscription payments will be returned to you, without interest or deduction, with 10 business days after expiration of the Rights Offering.

We can provide no assurances that you will actually be entitled to purchase the number of Units issuable upon the exercise of your Over-Subscription Privilege in full at the expiration of the Rights Offering. We will not be able to satisfy any requests for Units pursuant to the Over-Subscription Privilege if all of our stockholders exercise their Basic Subscription Rights in full, and we will only honor an Over-Subscription Privilege to the extent sufficient Units are available following the exercise of Basic Subscription Rights.

Limitation on the Purchase of Units

You may only purchase the number of whole Units purchasable upon exercise of the number of Basic Subscription Rights distributed to you in the Rights Offering, plus the Over-Subscription Privilege, if any. Accordingly, the number of Units that you may purchase in the Rights Offering is limited by the number of shares of our common stock you held on the Record Date and by the extent to which other stockholders exercise their Basic Subscription Rights and Over-Subscription Privileges, which we cannot determine prior to completion of the Rights Offering. However, due to stock exchange restrictions, we will not issue Units in the Rights Offering to the extent that a holder would beneficially own, together with any other person with whom such holder's securities may be aggregated under applicable law, more than 19.9% of our outstanding shares of common stock.

Subscription Price

The Subscription Price is \$ _____ per Unit. The Subscription Price does not necessarily bear any relationship to our past or expected future results of operations, cash flows, current financial condition, or any other established criteria for value. No change will be made to the Subscription Price by reason of changes in the trading price of our common stock or other factor prior to the expiration of this Rights Offering.

Determination of Subscription Price

In the determining the Subscription Price, the board of directors considered a variety of factors including those listed below:

- our need to raise capital in the near term to continue our operations;
- the current and historical trading prices of our common stock;
- a price that would increase the likelihood of participation in the Rights Offering;
- the cost of capital from other sources;
- the value of the Warrant being issued as a component of the Unit;
- comparable precedent transactions, including the percentage of shares offered, the terms of the subscription rights being offered, the subscription price and the discount that the subscription price represents to the immediately prevailing closing prices for these offerings;
- an analysis of stock price trading multiples for companies similar to us that, among other things, did not need to raise capital in the near-term; and
- our most recently forecasted revenue relative to our peer group.

The Subscription Price does not necessarily bear any relationship to any established criteria for value. No valuation consultant or investment banker has opined upon the fairness or adequacy of the Subscription Price. You should not consider the Subscription Price as an indication of actual value of our company or our common stock. You should not assume or expect that, after the Rights Offering, our shares of common stock will trade at or above the Subscription Price in any given time period. The market price of our common stock may decline during or after the Rights Offering. We cannot assure you that you will be able to sell the shares of our common stock purchased during the Rights Offering at a price equal to or greater than the Subscription Price. You should obtain a current price quote for our common stock before exercising your Subscription Rights and make your own assessment of our business and financial condition, our prospects for the future, and the terms of this Rights Offering. Once made, all exercises of Subscription Rights are irrevocable.

No Short-Sales

By exercising the Subscription rights, you are representing to us that you have not entered into any short sale or similar transaction with respect to our Common Stock since the record date for the Rights Offering. In addition, the Subscription Rights provide that, upon exercise of the Subscription Right, you represent that you have not since the Record Date and, for so long as you continue to hold Warrants issued in connection with the exercise of the Subscription Right, agree to not to enter into any short sale or similar transaction with respect to our Common Stock. These requirements prevent you from pursuing certain investment strategies that could provide you greater financial benefits than you might have realized if the Subscription Rights did not contain these requirements.

No Recombination

The common stock and Warrants comprising the Units will separate upon the exercise of the Subscription Rights, and the Units will not trade as a separate security. Holders may not recombine shares of common stock and Warrants to receive a Unit.

Non-Transferability of Subscription Rights

The Subscription Rights are non-transferable (other than by operation of law) and, therefore, you may not sell, transfer, assign or give away your Subscription Rights to anyone. The Subscription Rights will not be listed for trading on any stock exchange or market.

Expiration Date; Extension

The subscription period, during which you may exercise your Subscription Rights, expires at 5:00 p.m., Eastern Time, on _____, 2016, which is the expiration of the Rights Offering. If you do not exercise your Subscription Rights before that time, your Subscription Rights will expire and will no longer be exercisable. We will not be required to issue shares to you if the Subscription Agent receives your Rights Certificate or your subscription payment after that time. We have the option to extend the Rights Offering in the sole discretion of the Company and Maxim, although we do not presently intend to do so. We may extend the Rights Offering by giving oral or written notice to the Subscription Agent before the Rights Offering expires. If we elect to extend the Rights Offering, we will issue a press release announcing the extension no later than 9:00 a.m., Eastern Time, on the next business day after the most recently announced expiration date of the Rights Offering.

If you hold your shares of common stock in the name of a broker, dealer, bank or other nominee, the nominee will exercise the Subscription Rights on your behalf in accordance with your instructions. Please note that the nominee may establish a deadline that may be before 5:00 p.m., Eastern Time, on _____, 2016, which is the expiration date that we have established for the Rights Offering.

Termination

We may terminate the Rights Offering at any time and for any reason prior to the completion of the Rights Offering. If we terminate the Rights Offering, we will issue a press release notifying stockholders and the public of the termination.

Return of Funds upon Completion or Termination

The Subscription Agent will hold funds received in payment for shares in a segregated account pending completion of the Rights Offering. The Subscription Agent will hold this money until the Rights Offering is completed or is terminated. To the extent you properly exercise your Over-Subscription Privilege for an amount of Units that exceeds the number of unsubscribed Units available to you, any excess subscription payments will be returned to you within 10 business days after the expiration of the Rights Offering, without interest or deduction. If the Rights Offering is terminated for any reason, all subscription payments received by the Subscription Agent will be returned within 10 business days, without interest or deduction.

Shares of Our Common Stock Outstanding After the Rights Offering

Based on 195,058,395 shares of common stock outstanding as of December 31, 2015, assuming no other transactions by us involving our common stock prior to the expiration of the Rights Offering, and if the Rights Offering is fully subscribed, we will have _____ shares of common stock issued and outstanding, and Warrants to purchase an additional _____ shares of our common stock (excluding the 3,275,693 currently outstanding warrants). The exact number of shares and Warrants that we will issue in this offering will depend on the number of Units that are subscribed for in the Rights Offering.

Methods for Exercising Subscription Rights

The exercise of Subscription Rights is irrevocable and may not be cancelled or modified. You may exercise your Subscription Rights as follows:

Subscription by Record Holders

If you are a stockholder of record or a holder of warrants, the number of Units you may purchase pursuant to your Subscription Rights is indicated on the enclosed Rights Certificate. You may exercise your Subscription Rights by properly completing and executing the Rights Certificate and forwarding it, together with your full payment, to the Subscription Agent at the address given below under "Subscription Agent," to be received before 5:00 p.m., Eastern Time, on _____, 2016.

Subscription by Beneficial Owners

If you are a beneficial owner of shares of our common stock that are registered in the name of a broker, dealer, bank, or other nominee, you will not receive a Rights Certificate. Instead, we will issue one Subscription Right to such nominee record holder for all shares of our common stock held by such nominee at the Record Date. If you are not contacted by your nominee, you should promptly contact your nominee in order to subscribe for shares in the Rights Offering and follow the instructions provided by your nominee.

To properly exercise your Over-Subscription Privilege, you must deliver the subscription payment related to your Over-Subscription Privilege before the Rights Offering expires. Because we will not know the total number of unsubscribed Units before the Rights Offering expires, if you wish to maximize the number of shares you purchase pursuant to your Over-Subscription Privilege, you will need to deliver payment in an amount equal to the aggregate subscription payment for the maximum number of Units that you wish to purchase.

Payment Method

Payments must be made in full in U.S. currency by personal check, certified check or bank draft, or by wire transfer, and payable to "Broadridge Corporate Issuer Solutions, Inc., as Subscription Agent for Cytori Therapeutics, Inc." You must timely pay the full subscription payment, including payment for the Over-Subscription Privilege, for the full number of shares of our common stock you wish to acquired pursuant to the exercise of Subscription Rights by delivering a:

- certified or personal check drawn against a U.S. bank payable to "Broadridge Corporate Issuer Solutions, Inc., as Subscription Agent for Cytori Therapeutics, Inc.";
- U.S. Postal money order payable to "Broadridge Corporate Issuer Solutions, Inc., as Subscription Agent for Cytori Therapeutics, Inc."; or
- wire transfer of immediately available funds directly to the account maintained by Broadridge Corporate Issuer Solutions, Inc., as Subscription Agent, for purposes of accepting subscriptions in this Rights Offering at _____, ABA, # _____, Account # _____ FBO Cytori Therapeutics, Inc., with reference to the name of the Rights holder.

If you elect to exercise your Subscription Rights, you should consider using a wire transfer or certified check drawn on a U.S. bank to ensure that the Subscription Agent receives your funds before the Rights Offering expires. If you send a personal check, payment will not be deemed to have been received by the Subscription Agent until the check has cleared. The clearinghouse may require five or more business days to clear a personal check. Accordingly, holders who wish to pay the Subscription Price by means of a personal check should make payment sufficiently in advance of the expiration of the Rights Offering to ensure that the payment is received and clears by that date. If you send a certified check, payment will be deemed to have been received by the Subscription Agent immediately upon receipt of such instrument.

You should read the instruction letter accompanying the Rights Certificate carefully and strictly follow it. **DO NOT SEND RIGHTS CERTIFICATES OR PAYMENTS DIRECTLY TO US.** We will not consider your subscription received until the Subscription Agent has received delivery of a properly completed and duly executed Rights Certificate and payment of the full subscription payment.

The method of delivery of Rights Certificates and payment of the subscription payment to the Subscription Agent will be at the risk of the holders of Subscription Rights. If sent by mail, we recommend that you send those certificates and payments by registered mail, properly insured, with return receipt requested, or by overnight courier, and that you allow a sufficient number of days to ensure delivery to the Subscription Agent and clearance of payment before the Rights Offering expires.

Missing or Incomplete Subscription Forms or Payment

If you fail to complete and sign the Rights Certificate or otherwise fail to follow the subscription procedures that apply to the exercise of your Subscription Rights before the Rights Offering expires, the Subscription Agent will reject your subscription or accept it to the extent of the payment received. Neither we nor our Subscription Agent undertakes any responsibility or action to contact you concerning an incomplete or incorrect subscription form, nor are we under any obligation to correct such forms. We have the sole discretion to determine whether a subscription exercise properly complies with the subscription procedures.

If you send a payment that is insufficient to purchase the number of shares you requested, or if the number of shares you requested is not specified in the forms, the payment received will be applied to exercise your Subscription Rights to the fullest extent possible based on the amount of the payment received. Any excess subscription payments received by the Subscription Agent will be returned, without interest or deduction, within 10 business days following the expiration of the Rights Offering.

Issuance of common stock and Warrants

The shares of common stock and Warrants that are purchased in the Rights Offering as part of the Units will be issued in book-entry, or uncertificated, form meaning that you will receive a direct registration (DRS) account statement from our transfer agent reflecting ownership of these securities if you are a holder of record of shares or warrants. If you hold your shares of common stock in the name of a bank, broker, dealer, or other nominee, DTC will credit your account with your nominee with the securities you purchased in the Rights Offering.

Subscription and Information Agent

The Subscription and Information Agent for the Rights Offering is Broadridge Corporate Issuer Solutions, Inc. The address to which Rights Certificates and payments should be mailed or delivered by overnight courier is provided below. If sent by mail, we recommend that you send documents and payments by registered mail, properly insured, with return receipt requested, and that you allow a sufficient number of days to ensure delivery to the Subscription Agent and clearance or payment before the Rights Offering expires. Do not send or deliver these materials to us.

**Broadridge Corporate Issuer Solutions, Inc.
1717 Arch Street, Suite 1300
Philadelphia, PA 19103
Attn: Re-Organization Department**

If you deliver the Rights Certificates in a manner different than that described in this prospectus, we may not honor the exercise of your Subscription Rights.

You should direct any questions or requests for assistance concerning the method of subscribing for the shares of our common stock or for additional copies of this prospectus to the Information Agent as follows:

**Broadridge Corporate Issuer Solutions, Inc.
(855) 793-5068 (toll free)**

Warrant Agent

The Warrant Agent for the Warrants is Broadridge Corporate Issuer Solutions, Inc.

No Fractional Shares

We will not issue fractional shares of common stock in the Rights Offering. Rights holders will only be entitled to purchase a number of Units representing a whole number of shares of common stock, rounded down to the nearest whole number of Units a holder would otherwise be entitled to purchase. Any excess subscription payments received by the Subscription Agent will be returned within 10 business days after expiration of the Rights Offering, without interest or deduction. Similarly, no fractional shares of common stock will be issued in connection with the exercise of a Warrant. Instead, for any such fractional share that would otherwise have been issuable upon exercise of the Warrant, the holder will be entitled to a cash payment equal to the pro-rated per share market price of the common stock on the last trading day preceding the exercise.

Notice to Brokers and Nominees

If you are a broker, dealer, bank, or other nominee holder that holds shares of our common stock for the account of others on the Record Date, you should notify the beneficial owners of the shares for whom you are the nominee of the Rights Offering as soon as possible to learn their intentions with respect to exercising their Subscription Rights. If a beneficial owner of our common stock so instructs, you should complete the Rights Certificate and submit it to the Subscription Agent with the proper subscription payment by the expiration date. You may exercise the number of Subscription Rights to which all beneficial owners in the aggregate otherwise would have been entitled had they been direct holders of our common stock on the Record Date, provided that you, as a nominee record holder, make a proper showing to the Subscription Agent by submitting the form entitled "Nominee Holder Certification," which is provided with your Rights Offering materials. If you did not receive this form, you should contact our Subscription Agent to request a copy.

Validity of Subscriptions

We will resolve all questions regarding the validity and form of the exercise of your Subscription Rights, including time of receipt and eligibility to participate in the Rights Offering. Our determination will be final and binding. Once made, subscriptions are irrevocable; we will not accept any alternative, conditional, or contingent subscriptions. We reserve the absolute right to reject any subscriptions not properly submitted or the acceptance of which would be unlawful. You must resolve any irregularities in connection with your subscriptions before the expiration date of the Rights Offering, unless we waive them in our sole discretion. Neither we nor the Subscription Agent is under any duty to notify you or your representative of defects in your subscriptions. A subscription will be considered accepted, subject to our right to withdraw or terminate the Rights Offering, only when the Subscription Agent receives a properly completed and duly executed Rights Certificate and any other required documents and the full subscription payment including final clearance of any personal check. Our interpretations of the terms and conditions of the Rights Offering will be final and binding.

Stockholder Rights

You will have no rights as a holder of the shares of our common stock you purchase in the Rights Offering until shares are issued in book-entry form or your account at your broker, dealer, bank, or other nominee is credited with the shares of our common stock purchased in the Rights Offering. Holders of Warrants issued in connection with the Rights Offering will not have rights as holders of our common stock until such Warrants are exercised and the shares of common stock underlying the Warrants are issued to the holder.

Foreign Shareholders

We will not mail this prospectus or Rights Certificates to stockholders with addresses that are outside the United States or that have an army post office or foreign post office address. The Subscription Agent will hold these Rights Certificates for their account. To exercise Subscription Rights, our foreign stockholders must notify the Subscription Agent prior to 5:00 p.m., Eastern Time, on _____, 2016, the third business day prior to the expiration date, of your exercise of Subscription Rights and provide evidence satisfactory to us, such as a legal opinion from local counsel, that the exercise of such Subscription Rights does not violate the laws of the jurisdiction in which such stockholder resides and payment by a U.S. bank in U.S. dollars before the expiration of the offer. If no notice is received by such time or the evidence presented is not satisfactory to us, the Subscription Rights represented thereby will expire.

No Revocation or Change

Once you submit the Rights Certificate or have instructed your nominee of your subscription request, you are not allowed to revoke or change the exercise or request a refund of monies paid. All exercises of Subscription Rights are irrevocable, even if you learn information about us that you consider to be unfavorable. You should not exercise your Subscription Rights unless you are certain that you wish to purchase shares at the Subscription Price.

U.S. Federal Income Tax Treatment of Rights Distribution

For U.S. federal income tax purposes, we do not believe holders of shares of our common stock or warrants should recognize income or loss upon receipt or exercise of a Subscription Right. See "Material U.S. Federal Income Tax Consequences."

No Recommendation to Rights Holders

Our board of directors is not making a recommendation regarding your exercise of the Subscription Rights. Stockholders who exercise Subscription Rights risk investment loss on money invested. We cannot assure you that the market price of our common stock will reach or exceed the Subscription Price, and even if it does so, that it will not decline during or after the Rights Offering. We also cannot assure you that you will be able to sell shares of our common stock or Warrants purchased in the Rights Offering at a price equal to or greater than the Subscription Price. You should make your investment decision based on your assessment of our business and financial condition, our prospects for the future and the terms of this Rights Offering. Please see "Risk Factors" for a discussion of some of the risks involved in investing in our common stock.

Fees and Expenses

We will pay all fees charged by the Subscription Agent and the Information Agent, and by the dealer-manager. You are responsible for paying any other commissions, fees, taxes or other expenses incurred in connection with the exercise of your Subscription Rights.

Listing

The Subscription Rights may not be sold, transferred, assigned or given away to anyone, and will not be listed for trading on any stock exchange or market. We have applied to have the Warrants listed for trading on NASDAQ under the symbol "CYTXW," however, there is no assurance that a sufficient number of Subscription Rights will be exercised so that the Warrants will meet the minimum listing criteria to be accepted for listing on NASDAQ. The shares of our common stock, including the shares to be issued in the Rights Offering and the shares underlying the Warrants to be issued in the Rights Offering, are traded on NASDAQ under the symbol "CYTX."

Important

Do not send Rights Certificates directly to us. You are responsible for choosing the payment and delivery method for your Rights Certificate and you bear the risks associated with such delivery. If you choose to deliver your Rights Certificate and payment by mail, we recommend that you use registered mail, properly insured, with return receipt requested. We also recommend that you allow a sufficient number of days to ensure delivery to the Subscription Agent and clearance of payment prior to the expiration time.

Distribution Arrangements

Maxim Group LLC is the dealer-manager for the Rights Offering. The dealer-manager will provide marketing assistance and advice to us in connection with the Rights Offering and will use their best efforts to solicit the exercise of Subscription Rights and participation in the Over-Subscription Privilege. The dealer-manager is not underwriting or placing any of the Subscription Rights or the shares of our common stock or Warrants to be issued in the Rights Offering and do not make any recommendation with respect to such Subscription Rights (including with respect to the exercise or expiration of such Subscription Rights), shares or Warrants. We have agreed to pay the dealer-manager certain fees and to reimburse the dealer-manager for certain out-of-pocket expenses incurred in connection with this offering. See "Plan of Distribution."

MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES

The following discussion is a summary of material U.S. federal income tax consequences relating to the receipt and exercise (or expiration) of the Subscription Rights acquired through the Rights Offering and the ownership and disposition of shares of our common stock and Warrants received upon exercise of the Subscription Rights or Warrants.

This summary deals only with Subscription Rights acquired through the Rights Offering, shares of our common stock and Warrants acquired upon exercise of Subscription Rights and shares of our common stock acquired upon exercise of the Warrants, in each case, that are held as capital assets by a beneficial owner. This discussion does not address all aspects of U.S. federal income taxation that may be relevant to such beneficial owners in light of their personal circumstances. This discussion also does not address tax consequences to holders that may be subject to special tax rules, including, without limitation, insurance companies, real estate investment trusts, regulated investment companies, grantor trusts, tax-exempt organizations, employee stock purchase plans, partnerships and other pass-through entities, persons holding Subscription Rights, shares of our common stock, warrants or Warrants as part of a hedging, integrated, conversion or constructive sale transaction or a straddle, financial institutions, brokers, dealers in securities or currencies, traders that elect to mark-to-market their securities, persons that acquired Subscription Rights, shares of our common stock, warrants or Warrants in connection with employment or other performance of services, U.S. Holders (as defined below) that have a functional currency other than the U.S. dollar, U.S. expatriates, and certain former citizens or residents of the United States. In addition, the discussion does not describe any tax consequences arising out of the tax laws of any state, local or foreign jurisdiction, or any U.S. federal tax considerations other than income taxation (such as Medicare contribution taxation or estate, generation skipping or gift taxation).

The discussion below is based upon the provisions of the Internal Revenue Code of 1986, as amended, or the Code, and regulations, rulings and judicial decisions thereunder, as of the date hereof, and such authorities may be repealed, revoked or modified, perhaps retroactively. We have not sought, and will not seek, any rulings from the Internal Revenue Service, or the IRS, regarding the matters discussed below. There can be no assurance that the IRS or a court will not take positions concerning the tax consequences of the receipt of Subscription Rights acquired through the Rights Offering by persons holding shares of our common stock or warrants, the exercise (or expiration) of the Subscription Rights, the acquisition, ownership and disposition of shares of our common stock and the acquisition, ownership and disposition (or expiration) of Warrants acquired upon exercise of the Subscription Rights that are different from those discussed below.

As used herein, a "U.S. Holder" means a beneficial owner of shares of our common stock, warrants, Subscription Rights, shares of our common stock and Warrants acquired upon exercise of Subscription Rights or shares of our common stock acquired upon exercise of Warrants, as the case may be, that is for U.S. federal income tax purposes: (1) an individual who is a citizen or resident of the United States; (2) a corporation (or other entity treated as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the United States or any state thereof or the District of Columbia; (3) an estate the income of which is subject to U.S. federal income taxation regardless of its source; or (4) a trust (a) the administration of which is subject to the primary supervision of a court within the United States and one or more United States persons as described in Section 7701(a)(30) of the Code have authority to control all substantial decisions of the trust, or (b) that has a valid election in effect to be treated as a United States person. A "Non-U.S. Holder" is such a beneficial owner (other than an entity or arrangement that is treated as a partnership for U.S. federal income tax purposes) that is not a U.S. Holder.

If any entity or arrangement that is treated as a partnership for U.S. federal income tax purposes is such a beneficial owner, the U.S. federal income tax treatment of a partner will generally depend upon the status of the partner and the activities of the partnership. Holders that are partnerships (and partners in such partnerships) are urged to consult their own tax advisors.

HOLDERS OF SHARES OF OUR COMMON STOCK AND SERIES R WARRANTS SHOULD CONSULT THEIR OWN TAX ADVISORS REGARDING THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AND THE CONSEQUENCES UNDER FEDERAL ESTATE AND GIFT TAX LAWS, FOREIGN, STATE, AND LOCAL LAWS AND TAX TREATIES OF THE RECEIPT, OWNERSHIP AND EXERCISE OF SUBSCRIPTION RIGHTS AND THE ACQUISITION, OWNERSHIP, AND DISPOSITION OF SHARES OF OUR COMMON STOCK AND WARRANTS ACQUIRED UPON EXERCISE OF SUBSCRIPTION RIGHTS AND SHARES OF OUR COMMON STOCK ACQUIRED UPON EXERCISE OF WARRANTS.

Tax Consequences to U.S. Holders

Taxation of Subscription Rights

Receipt of Subscription Rights

Although the authorities governing transactions such as this Rights Offering are complex and do not speak directly to the consequences of certain aspects of this Rights Offering, including the inclusion of the right to purchase Warrants in the Subscription Rights (rather than the right to purchase only shares of our common stock) and the effects of the Over-Subscription Privilege, we do not believe your receipt of Subscription Rights pursuant to the Rights Offering should be treated as a taxable distribution with respect to your existing shares of common stock or warrants for U.S. federal income tax purposes. Section 305(a) of the Code states that a stockholder's taxable income does not include in-kind stock dividends; however, the general non-recognition rule in Section 305(a) is subject to exceptions in Section 305(b), which include "disproportionate distributions." A disproportionate distribution is a distribution or a series of distributions, including deemed distributions, that has the effect of the receipt of cash or other property by some stockholders or holders of debt instruments convertible into stock and an increase in the proportionate interest of other stockholders in a corporation's assets or earnings and profits.

Our position regarding the tax-free treatment of the Subscription Right distribution is not binding on the IRS, or the courts. If this position is finally determined by the IRS or a court to be incorrect, whether on the basis that the issuance of the Subscription Rights is a "disproportionate distribution" or otherwise, the fair market value of the Subscription Rights would be taxable to holders of our common stock as a dividend to the extent of the holder's pro rata share of our current and accumulated earnings and profits, if any, with any excess being treated as a return of capital to the extent thereof and then as capital gain. Although no assurance can be given, it is anticipated that we will not have current and accumulated earnings and profits through the end of 2016. Further, if our position is incorrect, the treatment of holders of warrants in that case is not clear, and it may differ from the treatment of the Subscription Right distribution to the holders of our common stock.

The following discussion is based upon the treatment of the Subscription Right issuance as a non-taxable distribution with respect to your existing shares of common stock or warrants for U.S. federal income tax purposes.

Tax Basis in the Subscription Rights

If the fair market value of the Subscription Rights you receive is less than 15% of the fair market value of your existing shares of common stock or warrants (with respect to which the Subscription Rights are distributed) on the date you receive the Subscription Rights, the Subscription Rights will be allocated a zero basis for U.S. federal income tax purposes, unless you elect to allocate your basis in your existing shares of common stock or warrants between your existing shares of common stock or warrants and the Subscription Rights in proportion to the relative fair market values of the existing shares of common stock or warrants and the Subscription Rights determined on the date of receipt of the Subscription Rights. If you choose to allocate basis between your existing common shares or warrants and the Subscription Rights, you must make this election on a statement included with your timely filed tax return (including extensions) for the taxable year in which you receive the Subscription Rights. Such an election is irrevocable.

However, if the fair market value of the Subscription Rights you receive is 15% or more of the fair market value of your existing shares of common stock or warrants on the date you receive the Subscription Rights, then you must allocate your basis in your existing shares of common stock or warrants between those shares or warrants and the Subscription Rights you receive in proportion to their fair market values determined on the date you receive the Subscription Rights.

The fair market value of the Subscription Rights on the date that the Subscription Rights are distributed is uncertain, and we have not obtained, and do not intend to obtain, an appraisal of the fair market value of the Subscription Rights on that date. In determining the fair market value of the Subscription Rights, you should consider all relevant facts and circumstances, including any difference between the Subscription Price of the Subscription Rights and the trading price of our shares of common stock on the date that the Subscription Rights are distributed, the exercise price of the warrants, the length of the period during which the Subscription Rights may be exercised and the fact that the Subscription Rights are non-transferable.

Exercise of Subscription Rights

Generally, you will not recognize gain or loss upon the exercise of a Subscription Right in the Rights Offering. Your adjusted tax basis, if any, in the Subscription Right plus the Subscription Price should be allocated between the new common share and Warrant acquired upon exercise of the Subscription Right in proportion to their relative fair market values on the exercise date. This allocation will establish your initial tax basis for U.S. federal income tax purposes in your new common shares and Warrants. The holding period of a share of common stock or Warrant acquired upon exercise of a Subscription Right in the Rights Offering will begin on the date of exercise.

If you exercise a Subscription Right received in the Rights Offering after disposing of the shares of our common stock or warrants with respect to which such Subscription Right is received, then certain aspects of the tax treatment of the exercise of the Subscription Right are unclear, including (1) the allocation of the tax basis between the shares of common stock or warrants previously sold and the Subscription Right, (2) the impact of such allocation on the amount and timing of gain or loss recognized with respect to the shares of our common stock or warrants previously sold, and (3) the impact of such allocation on the tax basis of the shares of our common stock and warrants acquired upon exercise of the Subscription Right. If you exercise a Subscription Right received in the Rights Offering after disposing of shares of our common stock or warrants with respect to which the Subscription Right is received, you should consult with your tax advisor.

Expiration of Subscription Rights

If you allow Subscription Rights received in the Rights Offering to expire, you should not recognize any gain or loss for U.S. federal income tax purposes, and you should re-allocate any portion of the tax basis in your existing common shares or warrants previously allocated to the Subscription Rights that have expired to the existing common shares or warrants.

Taxation of Warrants

Sale or other Taxable Disposition of Warrants

Upon the sale, exchange or other taxable disposition of a Warrant, in general, you will recognize taxable gain or loss measured by the difference, if any, between (i) the amount of cash and the fair market value of any property received upon such taxable disposition, and (ii) your adjusted tax basis in the Warrant as allocated pursuant to the rules discussed above. Your gain or loss generally will be capital gain or loss and generally will be long-term capital gain or loss if, at the time of the sale or other disposition, your holding period for the Warrant is more than one year. The deductibility of capital losses is subject to limitations.

Exercise of Warrants

Upon the exercise of a Warrant for cash, in general, you will not recognize gain or loss for U.S. federal income tax purposes, except to the extent you receive a cash payment for any such fractional share that would otherwise have been issuable upon exercise of the Warrant. Your initial tax basis in common stock received will equal your adjusted tax basis in the Warrant exercised, increased by the amount of cash paid to exercise the Warrant and decreased by the adjusted tax basis allocable to any fractional share that would otherwise have been issuable upon exercise of the Warrant. Your holding period for the shares of our common stock received on exercise generally will commence on the day of exercise.

In certain circumstances, the Warrants will be exercisable on a cashless basis. The tax consequences of a cashless exercise are not clear and could differ from the consequences described above, including the possibility that a cashless exercise could be a taxable event. You should consult your tax advisor regarding the tax consequences of a cashless exercise of a Warrant.

Expiration of Warrants

If you allow a Warrant to expire, you will generally recognize a loss for U.S. federal income tax purposes equal to the adjusted tax basis of the Warrant. In general, such a loss will be a capital loss, and will be a short-term or long-term capital loss depending on your holding period for the Warrant.

Certain Adjustments to the Warrants

Under Section 305 of the Code, an adjustment to the number of Warrant shares that will be issued on the exercise of the Warrants, or an adjustment to the exercise price of the Warrants, may be treated as a constructive distribution to you if, and to the extent that, such adjustment has the effect of increasing your proportionate interest in our earnings and profits or assets, depending on the circumstances of such adjustment (for example, if such adjustment is to compensate for a distribution of cash or other property to our stockholders). Adjustments to the exercise price of Warrants made pursuant to a bona fide reasonable adjustment formula that has the effect of preventing dilution of the interest of the holders of the Warrants should generally not be considered to result in a constructive distribution. Any such constructive distribution would be taxable whether or not there is an actual distribution of cash or other property. See the more detailed discussion of the rules applicable to distributions made by us under the heading "Taxation of Common Shares – Distributions" below.

Taxation of Common Shares

Distributions

Distributions with respect to shares of our common stock acquired upon exercise of Subscription Rights or upon exercise of Warrants will be taxable as dividend income when actually or constructively received to the extent of our current or accumulated earnings and profits as determined for U.S. federal income tax purposes.

Dividend income received by certain non-corporate U.S. Holders with respect to shares of our common stock generally will be "qualified dividends" subject to preferential rates of U.S. federal income tax, provided that the U.S. Holder meets applicable holding period and other requirements. Subject to similar exceptions for short-term and hedged positions, dividend income on our shares of common stock paid to U.S. Holders that are domestic corporations generally will qualify for the dividends-received deduction. To the extent that the amount of a distribution exceeds our current and accumulated earnings and profits, such distribution will be treated first as a tax-free return of capital to the extent of your adjusted tax basis in such shares of our common stock and thereafter as capital gain.

Dispositions

If you sell or otherwise dispose of shares of common stock acquired upon exercise of Subscription Rights or upon exercise of Warrants in a taxable transaction, you will generally recognize capital gain or loss equal to the difference between the amount realized and your adjusted tax basis in the shares. Such capital gain or loss will be long-term capital gain or loss if your holding period for such shares is more than one year at the time of disposition. Long-term capital gain of a non-corporate U.S. Holder is generally taxed at preferential rates of U.S. federal income tax. The deductibility of capital losses is subject to limitations.

Information Reporting and Backup Withholding

You may be subject to information reporting and/or backup withholding with respect to the gross proceeds from the disposition of Warrants, shares of our common stock acquired through the exercise of Subscription Rights or through the exercise of Warrants, or dividend payments. Backup withholding (currently at the rate of 28%) may apply under certain circumstances if you (1) fail to furnish your social security or other taxpayer identification number, or TIN, (2) furnish an incorrect TIN, (3) fail to report interest or dividends properly, or (4) fail to provide a certified statement, signed under penalty of perjury, that the TIN provided is correct, that you are not subject to backup withholding and that you are a U.S. person on IRS Form W-9 or Substitute Form W-9. Any amount withheld from a payment under the backup withholding rules is allowable as a credit against (and may entitle you to a refund with respect to) your U.S. federal income tax liability, provided that the required information is timely furnished to the IRS. Certain persons are exempt from information reporting and backup withholding, including corporations and financial institutions, provided that they demonstrate this fact, if requested. You are urged to consult your own tax advisor as to your qualification for exemption from backup withholding and the procedure for obtaining such exemption.

Tax Consequences to Non-U.S. Holders

Taxation of the Subscription Rights

Receipt, Exercise and Expiration of the Subscription Rights

The discussion assumes that the receipt of Subscription Rights will be treated as a nontaxable distribution. See "Tax Consequences to U.S. Holders – Taxation of Subscription Rights – Receipts of Subscription Rights" above. You will not be subject to U.S. federal income tax (or any withholding thereof) on the receipt, exercise or expiration of the Subscription Rights.

Exercise and Expiration of Warrants and Certain Adjustments to Warrants

Exercise of Warrants

In general, a Non-U.S. Holder will not recognize gain or loss for U.S. federal income tax purposes upon exercise of a Warrant, except to the extent the Non-U.S. Holder receives a cash payment for any such fractional share that would otherwise have been issuable upon exercise of the Warrant, which will be treated as a sale subject to the rules described under "Sale or Other Disposition of Common Stock or Warrants" below.

Expiration of Warrants

In general, a Non-U.S. Holder will not be able to utilize a loss recognized upon expiration of a Warrant against the Non-U.S. Holder's U.S. federal income tax liability unless the loss is effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States (and, if an income tax treaty applies, is attributable to a permanent establishment in the United States) or is treated as a U.S.-source loss and the Non-U.S. Holder is present 183 days or more in the taxable year of disposition and certain other conditions are met.

Certain Adjustments to the Warrants

Under Section 305 of the Code, an adjustment to the number of Warrant shares that will be issued on the exercise of the Warrants, or an adjustment to the exercise price of the Warrants, may be treated as a constructive distribution to a Non-U.S. Holder of the Warrants if, and to the extent that, such adjustment has the effect of increasing such Non-U.S. Holder's proportionate interest in our "earnings and profits" or assets, depending on the circumstances of such adjustment (for example, if such adjustment is to compensate for a distribution of cash or other property to our stockholders). Adjustments to the exercise price of Warrants made pursuant to a bona fide reasonable adjustment formula that has the effect of preventing dilution of the interest of the holders of the Warrants should generally not be considered to result in a constructive distribution. Any such constructive distribution would be taxable whether or not there is an actual distribution of cash or other property. See the more detailed discussion of the rules applicable to distributions made by us under the heading "– Taxation of Distributions on Common Shares" below.

Taxation of Distributions on Common Shares

Any distributions of cash or property made with respect to our common stock generally will be subject to withholding tax to the extent paid out of our current or accumulated earnings and profits as determined for U.S. federal income tax purposes, if any, at a rate of 30% (or a lower rate prescribed in an applicable income tax treaty). In order to obtain a reduced withholding tax rate, if applicable, you will be required to provide an IRS Form W-8BEN or IRS Form W-8BEN-E, as applicable, certifying your entitlement to benefits under a treaty. In addition, you will not be subject to withholding tax if you provide an IRS Form W-8ECI certifying that the distributions are effectively connected with your conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, are attributable to a permanent establishment within the United States); instead, you generally will be subject to U.S. federal income tax, net of certain deductions, with respect to such income at the same rates applicable to U.S. persons, and if you are a corporation, a "branch profits tax" of 30% (or a lower rate prescribed in an applicable income tax treaty) also may apply to such effectively connected income.

Non-U.S. Holders may be required to periodically update their IRS Forms W-8.

Sale or Other Disposition of Our Common Stock or Warrants

In general, you will not be subject to U.S. federal income tax on any gain realized on a sale of shares of our common stock, or Warrants unless:

- the gain is effectively connected with your conduct of a trade or business within the United States (and, if an income tax treaty applies, is attributable to a permanent establishment in the United States);
- you are an individual, you hold your Subscription Rights, shares of common stock or Warrants as capital assets, you are present in the United States for 183 days or more in the taxable year of disposition and certain other conditions are met; or
- we are or have been a "United States real property holding corporation," or USRPHC, for U.S. federal income tax purposes unless an exception for 5% or less stockholders applies.

Gain that is effectively connected with your conduct of a trade or business within the United States (and, if an income tax treaty applies, is attributable to a permanent establishment within the United States) generally will be subject to U.S. federal income tax, net of certain deductions, at the same rates applicable to U.S. persons. If you are a corporation, a "branch profits tax" of 30% (or a lower rate prescribed in an applicable income tax treaty) also may apply to such effectively connected gain.

A domestic corporation is treated as a USRPHC if the fair market value of its United States real property interests equals or exceeds 50% of the sum of (1) the fair market value of its United States real property interests, (2) the fair market value of its non-United States real property interests and (3) the fair market value of any other of its assets which are used or held for use in a trade or business. We believe that we are not currently, and have not been within the relevant testing period, a USRPHC. However, no assurance can be given that we will not become a USRPHC in the future. If we are a USRPHC or become a USRPHC in the future, a Non-U.S. Holder may still not be subject to U.S. federal income tax on a sale or other disposition if an exception for 5% or less stockholders applies. You are urged to consult your own tax advisor regarding the U.S. federal income tax considerations that could result if we are, or become, a USRPHC and with respect to the exception for 5% or less stockholders.

Information Reporting and Backup Withholding

Distributions on our common stock and the amount of tax withheld, if any, with respect to such distributions will generally be subject to information reporting. If you comply with certification procedures to establish that you are not a United States person, additional information reporting and backup withholding should not apply to distributions on our common stock and information reporting and backup withholding should not apply to the proceeds from a sale or other disposition of Warrants or shares of our common stock. The amount of any backup withholding will generally be allowed as a refund or credit against your U.S. federal income tax liability, provided that the required information is timely furnished to the IRS.

FATCA

Legislation enacted in 2010 and commonly referred to as FATCA may impose withholding taxes on certain types of payments made to "foreign financial institutions" and certain other non-U.S. entities. The legislation imposes a 30% withholding tax on dividends on shares of our common stock and on or after January 1, 2017, the gross proceeds from the sale or other disposition of our shares of common stock or Warrants received by a foreign financial institution unless the foreign financial institution enters into an agreement with the U.S. Treasury to among other things, undertake to identify accounts held by certain U.S. persons or U.S.-owned foreign entities, annually report certain information about such accounts and withhold 30% on payments to account holders whose actions prevent it from complying with these reporting and other requirements. In addition, the legislation imposes a 30% withholding tax on the same types of payments to a non-financial foreign entity unless the entity certifies that it does not have any substantial U.S. owners or furnishes identifying information regarding each substantial U.S. owner. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules. Depending on your circumstances, you may be entitled to a refund or credit in respect of some or all of this withholding. However, even if you are entitled to have any such withholding refunded, the required procedures could be cumbersome and significantly delay your receipt of any withheld amounts. Prospective investors should consult their tax advisors regarding this legislation.

THE PRECEDING DISCUSSION OF MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES IS NOT TAX ADVICE. HOLDERS OF SHARES OF OUR COMMON STOCK AND SERIES R WARRANTS SHOULD CONSULT THEIR OWN TAX ADVISORS REGARDING THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AND THE CONSEQUENCES UNDER FEDERAL ESTATE AND GIFT TAX LAWS, FOREIGN, STATE, AND LOCAL LAWS AND TAX TREATIES OF THE RECEIPT, OWNERSHIP AND EXERCISE OF SUBSCRIPTION RIGHTS AND THE ACQUISITION, OWNERSHIP, AND DISPOSITION OF SHARES OF OUR COMMON STOCK AND WARRANTS ACQUIRED UPON EXERCISE OF SUBSCRIPTION RIGHTS AND SHARES OF OUR COMMON STOCK ACQUIRED UPON EXERCISE OF WARRANTS.

Common Stock

This section describes the general terms and provisions of the shares of our common stock, \$0.001 par value. This description is only a summary and is qualified in its entirety by reference to the description of our common stock included in our restated certificate of incorporation and our amended and restated bylaws which have been filed as exhibits to the registration statement of which this prospectus is a part. You should read our restated certificate of incorporation and our amended and restated bylaws for additional information before you buy any of our common stock or other securities. See "Where You Can Find More Information" and "Incorporation by Reference."

We have 290,000,000 shares of authorized common stock. As of December 31, 2015, there were 195,058,395 shares of common stock issued and outstanding, as well as warrants to purchase 3,275,693 shares of common stock outstanding on that date. The holders of Common Stock possess exclusive voting rights in us, except to the extent our board of directors specifies voting power with respect to any other class of securities issued in the future. Each holder of our common stock is entitled to one vote for each share held of record on each matter submitted to a vote of stockholders, including the election of directors. Stockholders do not have any right to cumulate votes in the election of directors.

Subject to preferences that may be granted to the holders of preferred stock, each holder of our common stock is entitled to share ratably in distributions to stockholders and to receive ratably such dividends as may be declared by our board of directors out of funds legally available therefor. In the event of our liquidation, dissolution or winding up, the holders of our common stock will be entitled to receive, after payment of all of our debts and liabilities and of all sums to which holders of any preferred stock may be entitled, the distribution of any of our remaining assets. Holders of our common stock have no conversion, exchange, sinking fund, redemption or appraisal rights (other than such as may be determined by our board of directors in its sole discretion) and have no preemptive rights to subscribe for any of our securities.

All of the outstanding shares of our common stock are, and the shares of common stock issued upon the conversion of any securities convertible into our common stock will be, fully paid and non-assessable. The shares of common stock offered by this prospectus or upon the conversion of any preferred stock or debt securities or exercise of any warrants offered pursuant to this prospectus, when issued and paid for, will also be, fully paid and non-assessable.

The shares of common stock that are purchased in the Rights Offering as part of the Units will be issued in book-entry, or uncertificated, form meaning that you will receive a direct registration (DRS) account statement from our transfer agent reflecting ownership of shares if you are a holder of record of shares or warrants. The Subscription Agent will arrange for the issuance of the common stock as soon as practicable after the expiration of the Rights Offering, payment for the Units subscribed for has cleared, and all prorating calculations and reductions contemplated by the terms of the Rights Offering have been effected. If you hold your shares of common stock in the name of a bank, broker, dealer, or other nominee, DTC will credit your account with your nominee with the common stock you purchased in the Rights.

Our common stock is listed on the NASDAQ Capital Market under the symbol "CYTX."

Preferred Stock

We have 5,000,000 shares of authorized preferred stock, \$0.001 par value, 13,500 shares of which were issued and none of which were outstanding as of December 31, 2015. Of this amount, 13,500 shares have been designated Series A convertible preferred stock, none of which are outstanding as of December 31, 2015. Our board of directors is authorized, without action by our stockholders, to classify or reclassify any unissued portion of our authorized shares of preferred stock to provide for the issuance of shares of other classes or series, including preferred stock in one or more series. Our board of directors may fix or alter the dividend rights, dividend rate, conversion rights, voting rights, rights and terms of redemption (including sinking fund provisions), the redemption price or prices, the liquidation preferences of any wholly unissued series of Preferred Stock, and the number of shares constituting any such series and the designation thereof, or any of them. Our board of directors may also increase or decrease the number of shares of any series subsequent to the issue of shares of that series, but not below the number of shares of such series then outstanding. In case the number of shares of any series shall be so decreased, the shares constituting such decrease shall resume the status which they had prior to the adoption of the resolution originally fixing the number of shares of such series.

Warrants

Warrants Included in Units Issuable in the Rights Offering

The Warrants to be issued as a part of this Rights Offering will be designated as our "Series R" warrants. These Warrants will be separately transferable following their issuance and through their expiration two years from the date of issuance. Each whole Warrant will entitle the holder to purchase one share of common stock at an exercise price of \$ _____ per share from the date of issuance through its expiration. We have applied to have the Warrants listed for trading on NASDAQ under the symbol "CYTXW," however, there is no assurance that a sufficient number of Subscription Rights will be exercised so that the Warrants will meet the minimum listing criteria to be accepted for listing on NASDAQ. The common stock underlying the Warrants, upon issuance, will also be traded on NASDAQ under the symbol "CYTX."

All Warrants that are purchased in the Rights Offering as part of the Units will be issued in book-entry, or uncertificated, form meaning that you will receive a direct registration, or DRS, account statement from our transfer agent reflecting ownership of Warrants if you are a holder of record of shares or warrants. The Subscription Agent will arrange for the issuance of the Warrants as soon as practicable after the expiration of the Rights Offering, payment for the Units subscribed for has cleared, and all prorating calculations and reductions contemplated by the terms of the Rights Offering have been effected. If you hold your shares of common stock in the name of a bank, broker, dealer, or other nominee, DTC will credit your account with your nominee with the Warrants you purchased in the Rights Offering.

The Warrants will be exercisable for cash, or solely during any period when a registration statement for the exercise of the Warrants is not in effect, on a cashless basis.

We may call the Warrants for redemption, in whole and not in part, at a price of \$0.01 per Warrant at any time while the Warrants are exercisable, upon not less than 30 days' prior written notice of redemption to each Warrant holder, and if, and only if, the closing price of the common stock equals or exceeds \$ _____ per share, subject to adjustment, for 10 consecutive trading days.

The Warrants provide that, for so long as a holder continues to hold Warrants, such holder will not be permitted to enter into any short sale or similar transaction with respect to our Common Stock. Any violation of this provision may result in the Warrant being terminated at the Company's option.

The exercise price of the Warrants and the number of shares of common stock issuable upon exercise of the Warrants are subject to adjustment in certain circumstances, including a stock split of, stock dividend on, or a subdivision, combination or recapitalization of the common stock. Upon the merger, consolidation, sale of substantially all of our assets, or other similar transaction, the holders of Warrants shall, at the option of the company, be required to exercise the Warrants immediately prior to the closing of the transaction, or such Warrants shall automatically expire. Upon such exercise, the holders of Warrants shall participate on the same basis as the holders of common stock in connection with the transaction.

The Warrants do not confer upon the holder any voting or any other rights of a stockholder. Upon notice to the Warrants holders, we have the right at any time and from time to time, to reduce the exercise price or to extend the Warrants' termination date.

The Warrants will be issued pursuant to a warrant agreement by and between us and Broadridge Corporate Issuer Solutions, Inc., the warrant agent.

Possible Anti-Takeover Effects of Delaware Law and our Certificate of Incorporation and Bylaws

Delaware Anti-Takeover Statute

We are subject to Section 203 of the DGCL, an anti-takeover statute. In general, Section 203 of the DGCL prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years following the time the person became an interested stockholder, unless the business combination or the acquisition of shares that resulted in a stockholder becoming an interested stockholder is approved in a prescribed manner. Generally, a "business combination" includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. Generally, an "interested stockholder" is a person who, together with affiliates and associates, owns (or within three years prior to the determination of interested stockholder status did own) 15% or more of a corporation's voting stock. The existence of this provision would be expected to have an anti-takeover effect with respect to transactions not approved in advance by our board of directors, including discouraging attempts that might result in a premium over the market price for the shares of common stock held by our stockholders.

Board Vacancies

Our amended and restated bylaws provide that any vacancy or vacancies in our board of directors shall be deemed to exist in the case of the death, resignation or removal of any director, or if the authorized number of directors be increased. Vacancies may be filled by a majority of the remaining directors, though less than a quorum, or by a sole remaining director, unless otherwise provided in the Certificate of Incorporation. The stockholders may elect a director or directors at any time to fill any vacancy or vacancies not filled by the directors.

Undesignated Preferred Stock

The authority possessed by our board of directors to issue preferred stock could potentially be used to discourage attempts by third parties to obtain control of our company through a merger, tender offer, proxy contest or otherwise by making such attempts more difficult or more costly. Our board of directors may issue preferred stock with voting rights or conversion rights that, if exercised, could adversely affect the voting power of the holders of our common stock:

Special Meeting Requirements

Our amended and restated bylaws provide that special meetings of our stockholders may only be called at the request of our president, chief executive officer or chairman of the board or by a majority of our Board of Directors.

No Cumulative Voting

The DGCL provides that stockholders are denied the right to cumulate votes in the election of directors unless our certificate of incorporation provides otherwise. Our certificate of incorporation does not provide for cumulative voting.

Authorized but Unissued Shares

Our authorized but unissued shares of common stock and preferred stock will be available for future issuance without stockholder approval. We may use additional shares for a variety of purposes, including future public offerings to raise additional capital, to fund acquisitions and as employee compensation. The existence of authorized but unissued shares of common stock and preferred stock could render more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise.

The above provisions may deter a hostile takeover or delay a change in control or management of us.

Transfer Agent

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A.

Warrant Agent

The warrant agent for the warrants is Broadridge Corporate Issuer Solutions, Inc.

PLAN OF DISTRIBUTION

On or about _____, 2016, we will distribute the Subscription Rights, Rights Certificates and copies of this prospectus to the holders of our common stock on the Record Date. Subscription Rights holders who wish to exercise their Subscription Rights and purchase Units must complete the Subscription Rights Certificate and return it with payment for the shares to the Subscription Agent at the following address:

Broadridge Corporate Issuer Solutions, Inc.
1717 Arch Street, Suite 1300
Philadelphia, PA 19103
Attn: Re-Organization Department

If you have any questions, you should contact our Information Agent for the Rights Offering:

Broadridge Corporate Issuer Solutions, Inc.
(855) 793-5068 (toll free)

Other than as described in this prospectus, we do not know of any existing agreements between any stockholder, broker, dealer, underwriter or agent relating to the sale or distribution of the underlying common stock.

Maxim Group LLC is the dealer-manager of this Rights Offering. In such capacity, such dealer-manager will provide marketing assistance and advice to us in connection with this offering and will solicit the exercise of Subscription Rights and participation in the Over-Subscription Privilege. The dealer-manager is not underwriting or placing any of the Subscription Rights or the shares of our common stock or Warrants being issued in this offering and does not make any recommendation with respect to such Subscription Rights (including with respect to the exercise or expiration of such Subscription Rights), shares or Warrants.

In connection with this Rights Offering, we have agreed to pay fees to Maxim Group LLC as dealer-manager a cash fee equal to (i) 6% of the gross proceeds received by us directly from exercises of the Subscription Rights if the amount of such gross proceeds is less than \$7.5 million or (b) 7% of the gross proceeds received by us directly from exercises of the Subscription Rights if the amount of such gross proceeds is at least \$7.5 million. We advanced \$30,000 to Maxim Group LLC against reimbursement of accountable expenses upon their engagement as a dealer-manager, or the Advance, and agreed to reimburse the reasonable fees and expenses of the dealer-manager up to \$75,000. Any portion of the Advance will be returned to us to the extent it is not actually incurred.

We have also agreed to indemnify the dealer-manager and its respective affiliates against certain liabilities arising under the Securities Act of 1933, as amended. The dealer-manager's participation in this offering is subject to customary conditions contained in the dealer-manager agreement, including the receipt by the dealer-manager of an opinion of our counsel. The dealer-manager and its affiliates may provide to us from time to time in the future in the ordinary course of their business certain financial advisory, investment banking and other services for which they will be entitled to receive fees.

Maxim Group LLC is a broker-dealer and member of the Financial Industry Regulatory Authority, Inc. The principal business address of Maxim Group LLC is 405 Lexington Avenue, New York, New York 10174.

EXPERTS

The consolidated financial statements and schedule of Cytori Therapeutics, Inc. as of December 31, 2015 and 2014, and for each of the years in the three-year period ended December 31, 2015, and management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2015, have been incorporated by reference herein in reliance upon the reports of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

The audit report covering the December 31, 2015 consolidated financial statements contains an explanatory paragraph that states that the Company's recurring losses from operations, liquidity position, and debt service requirements raises substantial doubt about the Company's ability to continue as a going concern. The consolidated financial statements and financial statement schedule do not include any adjustments that might result from the outcome of that uncertainty.

LEGAL MATTERS

The validity of the securities offered hereby will be passed upon for us by DLA Piper LLP (US), San Diego, California. The dealer-manager is being represented by Ellenoff Grossman & Schole LLP, New York, New York.

WHERE YOU CAN FIND MORE INFORMATION

We have filed a registration statement on Form S-1 with the SEC under the Securities Act of 1933, as amended. This prospectus is part of the registration statement but the registration statement includes additional information and exhibits. We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy the registration statement and any document we file with the SEC at the public reference room maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the public reference room by calling the SEC at 1-800-SEC-0330. The SEC also maintains a web site that contains reports, proxy and information statements and other information regarding companies, such as ours, that file documents electronically with the SEC. The website address is www.sec.gov. The information on the SEC's website is not part of this prospectus, and any references to this website or any other website are inactive textual references only.

INCORPORATION BY REFERENCE

The SEC permits us to "incorporate by reference" the information contained in documents we have filed with the SEC, which means that we can disclose important information to you by referring you to those documents rather than by including them in this prospectus. Information that is incorporated by reference is considered to be part of this prospectus and you should read it with the same care that you read this prospectus. We have filed with the SEC, and incorporate by reference in this prospectus:

- our Annual Report on Form 10-K for the year ended December 31, 2015;
- our definitive proxy statement filed on March 15, 2016;
- our Current Reports on Form 8-K filed on January 5, 2016, January 29, 2016, February 4, 2016, February 24, 2016, and March 2, 2016.
- the description of our common stock contained in our registration statement on Form 10/A filed with the SEC on July 16, 2001 (File No. 000-32501).

Any statement contained in any document incorporated by reference herein will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or any additional prospectus supplements modifies or supersedes such statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

We will provide without charge to each person, including any beneficial owner, to whom this prospectus is delivered, upon written or oral request, a copy of any or all documents that are incorporated by reference into this prospectus, but not delivered with the prospectus supplement, other than exhibits to such documents unless such exhibits are specifically incorporated by reference into the documents that this prospectus supplement incorporates. You should direct written requests to: Cytori Therapeutics, Inc., 3020 Callan Road, San Diego, CA 92121, Attn: Investor Relations, or you may call us at (858) 458-0900.

PROSPECTUS

Subscription Rights to Purchase Up to Units
Consisting of an Aggregate of Up to Shares of Common Stock
and Warrants to Purchase Up to Shares of Common Stock
at a Subscription Price of \$ Per Unit

Dealer-Manager

Maxim Group LLC

, 2016

PART II
Information Not Required In Prospectus

Item 13. Other Expenses of Issuance and Distribution.

The following is a statement of estimated expenses in connection with the issuance and distribution of the securities being registered, excluding dealer-manager fees. All expenses incurred with respect to the registration of the common stock will be borne by us. All amounts are estimates except the SEC registration fee and the FINRA filing fee.

	Amount to be Paid
SEC Registration Fee	\$ 1,108
FINRA Filing Fee	2,150
Printing Expenses	
Legal Fees and Expenses	
Accounting Fees and Expenses	
Subscription Agent, Information Agent and Warrant Agent Fees and Expenses	
Miscellaneous Expenses	
	\$

Item 14. Indemnification of Directors and Officers.

Section 145 of the DGCL authorizes a court to award or a corporation's board of directors to grant indemnification to directors and officers in terms sufficiently broad to permit such indemnification under certain circumstances for liabilities (including reimbursement for expenses incurred) arising under the Securities Act of 1933, as amended, or the Securities Act.

Our amended and restated certificate of incorporation, as amended (our "Certificate"), includes a provision that, to the fullest extent permitted by the Delaware General Corporation Law, eliminates the personal liability of our directors for monetary damages for breach of fiduciary duty as a director. In addition, together our Certificate and our amended and restated bylaws, as amended (our "Bylaws"), require us to indemnify, to the fullest extent permitted by law, any person made or threatened to be made a party to an action or proceeding (whether criminal, civil, administrative or investigative) by reason of the fact that such person is or was a director, officer or employee of Cytospor or any predecessor of ours, or serves or served at any other enterprise as a director, officer or employee at our request or the request of any predecessor of ours, against expenses (including attorneys' fees), judgments, fines, settlements and other amounts actually and reasonably incurred in connection with any proceeding, arising by reason of the fact that such person is or was an agent of ours. Our Bylaws also provide that we may, to the fullest extent provided by law, indemnify any person against expenses (including attorneys' fees), judgments, fines, settlements and other amounts actually and reasonably incurred in connection with any proceeding, arising by reason of the fact that such person is or was an agent of ours. We are required to advance expenses incurred by our directors, officers, employees and agents in defending any action or proceeding for which indemnification is required or permitted, subject to certain limited exceptions. The indemnification rights conferred by our Bylaws are not exclusive.

Item 15. Recent Sales of Unregistered Securities.

The following is a summary of all securities that we have sold within the past three years without registration under the Securities Act of 1933, as amended (the "Securities Act").

- On June 28, 2013, pursuant to the terms and conditions of the Loan and Security Agreement with Oxford Finance LLC, as collateral agent and as a lender, and Silicon Valley Bank as lender, we issued to the Lenders warrants to purchase an aggregate of up to 596,553 shares of our common stock at an exercise price equal to \$2.26 per share. The warrants were immediately exercisable for cash or by net exercise and will expire seven years after their issuance, which is June 28, 2020. The warrants were offered and sold to accredited investors in reliance upon exemptions from registration under Section 4(2) of the Securities Act and Rule 506 of Regulation D promulgated thereunder.

- On October 29, 2013, we entered into a Common Stock Purchase Agreement to sell 8,000,000 shares of our unregistered common stock (the "Lorem Shares") to Lorem Vascular Pty. Ltd, a company organized under the laws of Australia ("Lorem Vascular"), for \$24,000,000 cash in a private placement ("Lorem Purchase Agreement"). The purchase of the Lorem Shares took place in two parts, with the first four million shares being paid and transferred in November 2013, and the remaining four million shares being paid and transferred in January 2014. The issuance of the Lorem Shares was a private placement to an "accredited investor" and was exempt from registration under Section 4(2) of the Securities Act and Rule 506 of Regulation D promulgated thereunder.
- Effective May 13, 2014, we and 47 holders of warrants dated May 14, 2009 to purchase a total of 3,156,238 shares of our common stock issued in a private offering in 2009 agreed to extend the expiration date of the warrants from May 14, 2014 to May 14, 2015 and increase the exercise price of the warrants from \$2.62 per share to \$3.50 per share pursuant to an Amendment to Warrant to Purchase Common Stock. To the extent the amendments constitute an issuance of securities, the deemed exchange of the original warrants for warrants with the modified terms for no additional consideration and without paying remuneration for soliciting such exchange was exempt under Section 3(a)(9) of the Securities Act.
- On September 11, 2014, in connection with and pursuant to an amendment entered into on September 4, 2014 with 13 holders of existing warrants, we issued warrants to purchase 4,032,389 shares of common stock having an exercise price of \$2.00 per share, exercisable on the date that is six months and one day from the date of issuance and expiring five years from the date of issuance. The warrants also contain a cashless exercise feature. The warrants were issued in reliance on an exemption from registration under the Securities Act pursuant to Section 4(2) thereof based on the offering of such securities to thirteen investors and the lack of any general solicitation or advertising in connection with such issuance.
- On September 19, 2014, pursuant to the terms and conditions of a letter agreement with Oxford Finance LLC and Silicon Valley Bank, we cancelled the warrants issued June 28, 2013 and issued new warrants to purchase an aggregate of up to 596,553 shares of our common stock at an exercise price equal to \$0.67 per share. The warrants were immediately exercisable for cash or by net exercise and will expire seven years after their issuance, which is June 28, 2020. The warrants were offered and sold to accredited investors in reliance upon exemptions from registration under Section 4(a)(2) of the Securities Act and Rule 506 of Regulation D promulgated thereunder.
- On May 29, 2015, pursuant to the terms and conditions of the Loan and Security Agreement with Oxford Finance LLC, as collateral agent and as a lender, we issued to Oxford warrants to purchase an aggregate of up to 1,416,618 shares of our common stock at an exercise price equal to \$0.6872 per share. The warrants were exercisable on or after November 30, 2015 for cash or by net exercise and will expire ten years after their issuance on May 29, 2025. The warrants were offered and sold to accredited investors in reliance upon exemptions from registration under Section 4(a)(2) of the Securities Act and Rule 506 of Regulation D promulgated thereunder.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits

The exhibits to the registration statement are listed in the Exhibit Index to this registration statement and are incorporated herein by reference.

(b) Financial statement schedules

All schedules have been omitted because either they are not required, are not applicable or the information is otherwise set forth in the financial statements and related notes thereto.

Item 17. Undertakings.

The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Securities and Exchange Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(A) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(B) Each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(5) That for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(6) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to any charter provision, by law or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

(7) The undersigned registrant hereby undertakes that:

(i) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(I) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective; and

(ii) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Diego, State of California, on April 6, 2016.

CYTORI THERAPEUTICS, INC.

By: /s/ Marc H. Hedrick, M.D.
Marc H. Hedrick, M.D.
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Marc H. Hedrick and Tiago Girão as his true and lawful attorneys-in-fact and agents, with full powers of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments to this Registration Statement (including post-effective amendments and any related registration statements filed pursuant to Rule 462 and otherwise), and to file the same with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents and full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully for all intents and purposes as he might or could do in person, hereby ratifying and confirming that said attorney-in-fact and agent, or any substitute or resubstitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

SIGNATURE	TITLE	DATE
/s/ David M. Rickey David M. Rickey	Chairman of the Board	April 6, 2016
/s/ Marc H. Hedrick, M.D. Marc H. Hedrick, M.D.	President, Chief Executive Officer and Director (Principal Executive Officer)	April 6, 2016
/s/ Tiago Girão Tiago Girão	Chief Financial Officer (Principal Financial and Accounting Officer)	April 6, 2016
/s/ Richard J. Hawkins Richard J. Hawkins	Director	April 6, 2016
/s/ Paul W. Hawran Paul W. Hawran	Director	April 6, 2016
/s/ Gail K. Naughton, Ph.D. Gail K. Naughton, Ph.D.	Director	April 6, 2016
/s/ Gary A. Lyons Gary A. Lyons	Director	April 6, 2016
/s/ Tommy G. Thompson Tommy G. Thompson	Director	April 6, 2016

EXHIBIT INDEX

CYTORI THERAPEUTICS, INC.

EXHIBIT INDEX

Exhibit Number	Exhibit Title	Filed with this Form S-1	Incorporated by Reference		
			Form	File No.	Date Filed
1.1*	Form of Dealer-Manager Agreement by and between Cytori Therapeutics, Inc., Maxim Group LLC.				
3.1	Composite Certificate of Incorporation.		10-K	001-34375	03/11/2015
3.2	Amended and Restated Bylaws of Cytori Therapeutics, Inc.		10-Q	000-32501 Exhibit 3.2	08/14/2003
3.3	Amendment to Amended and Restated Bylaws of Cytori Therapeutics, Inc.		8-K	001-34375	05/06/2014
3.4	Certificate of Designation of Preferences, Rights and Limitations of Series A 3.6% Convertible Preferred Stock.		8-K	001-034375	10/08/2014
4.1	Warrant to Purchase Common Stock issued by the Company on October 14, 2008 in favor of Silicon Valley Bank, pursuant to the Loan and Security Agreement dated October 14, 2008.		10-K	000-32501 Exhibit 10.62	03/06/2009
4.2	Warrant to Purchase Common Stock issued by the Company on June 11, 2010 in favor of GE Capital Equity Investments, Inc., pursuant to the Amended and Restated Loan and Security Agreement dated June 11, 2010.		8-K	001-34375 Exhibit 10.73	06/17/2010
4.3	Warrant to Purchase Common Stock issued by the Company on June 11, 2010 in favor of Silicon Valley Bank, pursuant to the Amended and Restated Loan and Security Agreement dated June 11, 2010.		8-K	001-34375 Exhibit 10.74	06/17/2010
4.4	Warrant to Purchase Common Stock issued by the Company on June 11, 2010 in favor of Oxford Financial Corporation, pursuant to the Amended and Restated Loan and Security Agreement dated June 11, 2010.		8-K	001-34375 Exhibit 10.75	06/17/2010
4.5	Warrant to Purchase Common Stock issued by the Company on September 9, 2011 in favor of GE Capital Equity Investments, Inc., pursuant to the Amended and Restated Loan and Security Agreement dated September 9, 2011.		8-K	001-34375 Exhibit 10.84	09/15/2011
4.6	Warrant to Purchase Common Stock issued by the Company on September 9, 2011 in favor of Silicon Valley Bank, pursuant to the Amended and Restated Loan and Security Agreement dated September 9, 2011.		8-K	001-34375 Exhibit 10.85	09/15/2011
4.7	Warrant to Purchase Common Stock issued by the Company on September 9, 2011 in favor of Oxford Financial Corporation, pursuant to the Amended and Restated Loan and Security Agreement dated September 9, 2011.		8-K	001-34375 Exhibit 10.86	09/15/2011
4.8	Warrant to Purchase Common Stock issued by the Company on September 9, 2011 in favor of Oxford Financial Corporation, pursuant to the Amended and Restated Loan and Security Agreement dated September 9, 2011.		8-K	001-34375 Exhibit 10.87	09/15/2011
4.9	Warrant to Purchase Common Stock issued by the Company on June 28, 2013 in favor of Oxford Finance LLC pursuant to the Loan and Security Agreement dated June 28, 2013.		10-Q	001-34375 Exhibit 4.17	08/09/2013
4.10	Warrant to Purchase Common Stock issued by the Company on June 28, 2013 in favor of Oxford Finance LLC pursuant to the Loan and Security Agreement dated June 28, 2013.		10-Q	001-34375 Exhibit 4.18	08/09/2013
4.12	Warrant to Purchase Common Stock issued by the Company on June 28, 2013 in favor of Oxford Finance LLC pursuant to the Loan and Security Agreement dated June 28, 2013.		10-Q	001-34375 Exhibit 4.19	08/09/2013
4.13	Warrant to Purchase Common Stock issued by the Company on June 28, 2013 in favor of Oxford Finance LLC pursuant to the Loan and Security Agreement dated June 28, 2013.		10-Q	001-34375 Exhibit 4.20	08/09/2013
4.14	Warrant to Purchase Common Stock issued by the Company on June 28, 2013 in favor of Silicon Valley Bank pursuant to the Loan and Security Agreement dated June 28, 2013.		10-Q	001-34375 Exhibit 4.21	08/09/2013

4.15	Form of Warrant to Purchase Common Stock for Investors in the Units.		8-K	001-34375	05/30/2014
4.16	Form of Warrant to Purchase Common Stock for Placement Agent of the Units.		8-K	001-34375	05/30/2014
4.17	Form of Amendment to Warrant to Purchase Common Stock.		8-K	001-34375	09/08/2014
4.18	Form of Warrant to Purchase Common Stock.		8-K	001-34375	09/08/2014
4.19	Form of Warrant for Purchasers in the Units.		8-K	001-034375	10/08/2014
4.20	Form of Initial Warrant to Purchase Common Stock.		8-K	001-034375	05/05/2015
4.21	Form of Additional Warrant to Purchase Common Stock.		8-K	001-034375	05/05/2015
4.22	Form of Pre-Funded Warrant to Purchase Common Stock.		8-K	001-034375	05/05/2015
4.23	Amendment to Common Stock Purchase Warrant.		10-K	001-34375	03/11/2015
4.24	Amendment to Series A-1 Warrant to Purchase Common Stock.		10-K	001-34375	03/11/2015
4.25	Amendment to Series A-2 Warrant to Purchase Common Stock.		10-K	001-34375	03/11/2015
4.26	Form of Non-Transferable Subscription Rights Certificate.	X			
4.27*	Form of Series R Warrant underlying the Units.				
4.28*	Form of Warrant Agreement between Cytori Therapeutics, Inc. and Broadridge Corporate Issuer Solutions, Inc.				
5.1*	Opinion of DLA Piper LLP (US).				
10.1#	Amended and Restated 1997 Stock Option and Stock Purchase Plan.		10	000-32501 Exhibit 10.1	03/30/2001
10.1.1#	Board of Directors resolution adopted November 9, 2006 regarding determination of fair market value for stock option grant purposes (incorporated by reference to Exhibit 10.10.1 filed as Exhibit 10.10.1 to our Form 10-K Annual Report, as filed on March 30, 2007 and incorporated by reference herein).		10-K	000-32501 Exhibit 10.10.1	03/30/2007
10.2	2004 Equity Incentive Plan of Cytori Therapeutics, Inc.		8-K	000-32501 Exhibit 10.1	08/27/2004
10.3#	Board of Directors resolution adopted November 9, 2006 regarding determination of fair market value for stock option grant purposes.		10-K	000-32501 Exhibit 10.10.1	03/30/2007
10.4#	Notice and Agreement for Stock Options Grant Pursuant to Cytori Therapeutics, Inc. 1997 Stock Option and Stock Purchase Plan (Nonstatutory).		10-Q	000-32501 Exhibit 10.19	11/15/2004
10.5#	Notice and Agreement for Stock Options Grant Pursuant to Cytori Therapeutics, Inc. 1997 Stock Option and Stock Purchase Plan (Nonstatutory) with Cliff.		10-Q	000-32501 Exhibit 10.20	11/15/2004
10.6#	Notice and Agreement for Stock Options Grant Pursuant to Cytori Therapeutics, Inc. 1997 Stock Option and Stock Purchase Plan (Incentive).		10-Q	000-32501 Exhibit 10.21	11/15/2004
10.7#	Notice and Agreement for Stock Options Grant Pursuant to Cytori Therapeutics, Inc. 1997 Stock Option and Stock Purchase Plan (Incentive) with Cliff.		10-Q	000-32501 Exhibit 10.22	11/15/2004
10.8#	Form of Options Exercise and Stock Purchase Agreement Relating to the 2004 Equity Incentive Plan.		10-Q	000-32501 Exhibit 10.23	11/15/2004
10.9#	Form of Notice of Stock Options Grant Relating to the 2004 Equity Incentive Plan.		10-Q	000-32501 Exhibit 10.24	11/15/2004
10.10	Sublease Agreement dated May 24, 2005, between Biogen Idec, Inc. and the Company.		10-Q	000-32501 Exhibit 10.21	08/15/2005
10.11+	License & Royalty Agreement, effective August 23, 2007, by and between Olympus-Cytori, Inc. and Cytori Therapeutics, Inc.		10-Q	000-32501 Exhibit 10.49	11/13/2007

10.69	Lease Agreement entered into on April 2, 2010, between HCP Callan Rd, LLC. and Cytori Therapeutics, Inc.		10-Q	001-34375 Exhibit 10.69	05/06/2010
10.76	Common Stock Purchase Agreement, dated December 6, 2010, by and among Cytori Therapeutics, Inc. and Astellas Pharma Inc.		8-K	001-34375 Exhibit 10.76	12/09/2010
10.77	Form of Notice and Restricted Stock Award Agreement for grants of performance-based restricted stock awards under the 2004 Equity Incentive Plan.		8-K	001-34375 Exhibit 10.1	03/04/2011
10.88	First Amendment to Lease Agreement entered into on November 4, 2011, between HCP Callan Rd, LLC. and the Company.		10-Q	001-34375 Exhibit 10.88	11/08/2011
10.89#	2011 Employee Stock Purchase Plan.		DEF 14A	001-34375 Appendix A	05/02/2011
10.90+	Contract HHSO100201200008C dated September 27, 2012, by and between the Company and the U.S. Department of Health and Human Services Biomedical Advanced Research and Development Authority (portions of the exhibit have been omitted pursuant to a request for confidential treatment).		8-K	001-34375 Exhibit 10.90	10/03/2012
10.91	Joint Venture Termination Agreement dated May 8, 2013 by and between the Company and Olympus Corporation.		10-Q	001-34375 Exhibit 10.91	05/10/2013
10.93+	Puregraft Sale-License-Supply Agreement, dated July 30, 2013, by and among the Company and Bimini Technologies LLC.		10-Q/A	001-34375 Exhibit 10.93	11/12/2013
10.94+	Amended and Restated License and Supply Agreement dated January 30, 2014, by and between the Company and Lorem Vascular Pty. Ltd.		8-K	001-34375	02/04/2014
10.95	Sales Agreement, dated May 12, 2014, by and between Cytori Therapeutics, Inc. and Cowen and Company, LLC.		8-K	001-34375	05/12/2014
10.98	Cytori Therapeutics, Inc. 2014 Equity Incentive Plan.		DEF 14A	001-34375	06/12/2014
10.99	Contract HHSO100201200008C Amendment No. 1 dated August 13, 2014, by and between the Company and the U.S. Department of Health and Human Services Biomedical Advanced Research and Development Authority.		8-K	001-34375	08/19/2014
10.103	Confidential Separation Agreement and General Release of all claims dated October 2, 2014, by and among the Company, and Clyde Shores.		10-Q	001-34375	11/06/2014
10.104	Form of Securities Purchase Agreement by and between Cytori Therapeutics, Inc. and the Purchasers (as defined therein), dated as of October 8, 2014.		8-K	001-034375	10/08/2014
10.105	Placement Agency Agreement, dated October 8, 2014, between Cytori Therapeutics, Inc. and Roth Capital Partners, LLC.		8-K	001-034375	10/08/2014
10.106	Amendment One to the Securities Purchase Agreement, dated March 16, 2015, between the Company and certain institutional investors.		10-Q	001-034375	05/11/2015
10.107	Form of Securities Purchase Agreement, dated May 5, 2015, by and among Cytori Therapeutics, Inc. and the investors named therein.		8-K	001-034375	05/05/2015
10.108	Placement Agency Agreement, dated May 5, 2015, by and between Cytori Therapeutics, Inc. and Mizuho Securities USA Inc.		8-K	001-034375	05/05/2015
10.109	Amendment One to Joint Venture Termination Agreement, dated April 30, 2015, by and between Cytori Therapeutics, Inc. and Olympus Corporation.		8-K	001-034375	05/05/2015
10.110	Loan and Security Agreement, dated May 29, 2015, by and between Cytori Therapeutics, Inc. and Oxford Finance, LLC.		10-Q	001-034375	08/10/2015
10.111	Amendment One to the Securities Purchase Agreement between the Company and certain institutional investors dated May 5, 2015.		10-K	001-34375	03/11/2015
10.112#	2015 New Employee Incentive Plan.		8-K	001-034375	January 5, 2016

10.113#	Form of Agreement for Acceleration and/or Severance.		10-K	001-34375	03/11/2015
23.1	Consent of KPMG LLP, Independent Registered Public Accounting Firm .	X			
23.2*	Consent of DLA Piper LLP (US) (included in exhibit 5.1).				
24.1	Power of Attorney (included on signature page).	X			
99.1	Form of Instructions as to Use of Subscription Rights Certificates.	X			
99.2	Form of Letter to Shareholders who are Record Holders.	X			
99.3	Form of Letter to Brokers, Dealers, Banks and Other Nominees.	X			
99.4	Form of Broker Letter to Clients Who are Beneficial Holders.	X			
99.5	Form of Beneficial Owner Election Form.	X			
99.6	Form of Nominee Holder Certification.	X			
99.7	Form of Notice of Important Tax Information.	X			

* To be filed by amendment

Indicates management contract or compensatory plan or arrangement.

+ Confidential treatment has been granted with respect to certain portions of this exhibit. Omitted portions have been filed separately with the Securities and Exchange Commission.

FORM OF NON-TRANSFERABLE SUBSCRIPTION RIGHTS CERTIFICATE

RIGHTS CERTIFICATE # [_____]

NUMBER OF RIGHTS: [_____]

THE TERMS AND CONDITIONS OF THE RIGHTS OFFERING ARE SET FORTH IN THE COMPANY'S PROSPECTUS DATED [____], 2016 (THE "PROSPECTUS") AND ARE INCORPORATED HEREIN BY REFERENCE. COPIES OF THE PROSPECTUS ARE AVAILABLE UPON REQUEST FROM BROADRIDGE CORPORATE ISSUER SOLUTIONS, INC., THE INFORMATION AGENT.

CYTORI THERAPEUTICS, INC.
(Incorporated under the laws of the State of Delaware)

SUBSCRIPTION RIGHTS CERTIFICATE

Evidencing non-transferable Subscription Rights, each to purchase Units of Cytori Therapeutics, Inc., each Unit consisting of one share of Common Stock and one warrant representing the right to purchase one share of Common Stock
Subscription Price: \$[_____] per Unit

THE SUBSCRIPTION RIGHTS WILL EXPIRE IF NOT EXERCISED ON OR BEFORE 5:00 P.M., EASTERN TIME, ON [____], 2016, SUBJECT TO EXTENSION OR EARLIER TERMINATION.

THIS CERTIFIES THAT

the registered owner whose name is inscribed hereon and is the owner of the number of subscription rights ("**Subscription Rights**") set forth above. Each Subscription Right entitles the holder thereof to subscribe for and purchase (the "**Basic Subscription Right**") one Unit of Cytori Therapeutics, a Delaware corporation, at a subscription price of \$[_____] per Unit (the "**Subscription Price**"), pursuant to a rights offering (the "**Rights Offering**"), on the terms and subject to the conditions set forth in the Prospectus and the "Instructions as to Use of Cytori Therapeutics, Inc. Subscription Rights Certificates" accompanying this Subscription Rights Certificate. Each Unit consists of one share of common stock, par value of \$0.001 ("**Common Stock**"), and one warrant representing the right to purchase one share of common stock. Holders who fully exercise their Basic Subscription Rights are entitled to subscribe for additional Units that remain unsubscribed for as a result of any unexercised Basic Subscription Rights pursuant to the terms and conditions of the Rights Offering, subject to proration and stock ownership limitations, as described in the Prospectus (the "**Over-subscription Privilege**"). The Subscription Rights represented by this Subscription Rights Certificate may be exercised by completing the appropriate forms on the reverse side hereof and by returning the full payment of the subscription price for each Unit. If the subscriber attempts to exercise its Over-subscription Privilege and the Company is unable to issue the subscriber the full amount of Units requested, the Subscription Agent will return to the subscriber any excess funds submitted as soon as practicable, without interest or deduction.

This Subscription Rights Certificate is not valid unless countersigned by Broadridge Corporate Issuer Solutions, Inc., the Subscription Agent.

WITNESS the seal of Cytori Therapeutics, Inc. and the signatures of its duly authorized officers.

Dated: [____], 2016

Marc H. Hedrick, M.D., President & Chief Executive Officer

Tiago Girão, Chief Financial Officer

COUNTERSIGNED AND REGISTERED:

By:

Broadridge Corporate Issuer Solutions, Inc.

FORM ELECTION TO PURCHASE

PLEASE PRINT ALL INFORMATION CLEARLY AND LEGIBLY.

The registered holder of this Subscription Rights Certificate is entitled to exercise the number of Subscription Rights shown in the upper right hand corner of the Subscription Rights Certificate and may subscribe for additional Units upon the terms and conditions specified in the Prospectus. The undersigned hereby represents, in connection with this election, that the undersigned has not since the Record Date entered into any short sale or similar transaction with respect to the common stock of Cytori Therapeutics, Inc. The undersigned hereby notifies the Subscription Agent of its irrevocable election to subscribe for Units in the following amounts. To subscribe for Units pursuant to your Basic Subscription Right, please complete lines (a) and (c) below. To subscribe for additional Units pursuant to your Over-subscription Privilege, please also complete line (b).

(a) EXERCISE OF BASIC SUBSCRIPTION RIGHT:

Basic Subscription Right:	X	\$[]	=	\$
Number of Units		Subscription price		Payment enclosed

(b) EXERCISE OF OVER-SUBSCRIPTION PRIVILEGE: If you have exercised your Basic Subscription Right in full, you may subscribe for additional Units pursuant to your Over-subscription Privilege

Over-Subscription Privilege:	X	\$[]	=	\$
Number of Units		Subscription price		Payment enclosed

(c) TOTAL AMOUNT OF PAYMENT ENCLOSED \$

(d) IF YOU SPOKE WITH A BROKER WHO SOLICITED SUCH EXERCISE, PLEASE INDICATE THE NAME OF THE PERSON YOU SPOKE WITH: _

METHOD OF PAYMENT (CHECK ONE):

- CERTIFIED CHECK DRAWN ON A U.S. BANK, payable to "Broadridge Corporate Issuer Solutions, Inc., as Subscription Agent for Cytori Therapeutics, Inc."
- Wire transfer of immediately available funds directly to the account maintained by Broadridge Corporate Issuer Solutions, Inc., as Subscription Agent, for purposes of accepting subscriptions in this Rights Offering at _____, ABA: _____, Account #: _____ FBO Cytori Therapeutics, Inc., with reference to the name of the Subscription Rights holder.
- U.S. POSTAL MONEY ORDER, payable to "Broadridge Corporate Issuer Solutions, Inc., as Subscription Agent for Cytori Therapeutics, Inc."
- UNCERTIFIED PERSONAL CHECK, payable to "Broadridge Corporate Issuer Solutions, Inc., as Subscription Agent for Cytori Therapeutics, Inc." (which must clear before the Expiration Date to be considered a valid form of payment; please see Prospectus and Instructions)

I acknowledge receipt of the Prospectus in connection with the Rights Offering and agree to its terms. I agree to cooperate with the Company and provide to the Company any and all information requested by the Company in connection with the exercise of the Subscription Rights.

Signature(s) of Subscriber(s)

Signature(s) of Subscriber(s)

IMPORTANT: THE SIGNATURE(S) MUST CORRESPOND IN EVERY PARTICULAR, WITHOUT ALTERATION, WITH THE NAME(S) AS PRINTED ON THE FRONT OF THIS RIGHTS CERTIFICATE. If signature is by trustee(s), executor(s), administrator(s), guardian(s), attorney(s)-in-fact, officer(s) of a corporation or another acting in a fiduciary or representative capacity, please print name and title of authorized signer.

FOR INSTRUCTIONS ON THE USE OF CYTORI THERAPEUTICS, INC. SUBSCRIPTION RIGHTS CERTIFICATES, CONSULT BROADRIDGE CORPORATE ISSUER SOLUTIONS, INC., THE INFORMATION AGENT, AT (855) 793-5068 (TOLL FREE).

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Cytori Therapeutics, Inc.:

We consent to the use of our reports with respect to the consolidated financial statements, the accompanying schedule of valuation and qualifying accounts and the effectiveness of internal control over financial reporting incorporated by reference herein and to the reference to our firm under the heading "Experts" in the prospectus.

Our report dated March 11, 2016 contains an explanatory paragraph that states that the Company's recurring losses from operations, and liquidity position raises substantial doubt about its ability to continue as a going concern. The consolidated financial statements and financial statement schedule do not include any adjustments that might result from the outcome of that uncertainty.

/s/ KPMG LLP

San Diego, California
April 6, 2016

**FORM OF
INSTRUCTIONS AS TO USE OF SUBSCRIPTION RIGHTS CERTIFICATES
CYTORI THERAPEUTICS, INC.**

Please consult Broadridge Corporate Issuer Solutions, Inc., your bank or broker as to any questions.

The following instructions relate to a rights offering (the "Rights Offering") by Cytori Therapeutics, Inc., a Delaware corporation ("Cytori"), to the holders of record of its common stock, \$0.001 par value (the "Common Stock"), as described in Cytori's prospectus dated [____], 2016 (the "Prospectus"). Each holder of record of Common Stock at the close of business on [____], 2016 (the "Record Date") will receive, at no charge, a non-transferable subscription right (the "Subscription Right") for every _____ shares of Common Stock held or deemed to be held at the Record Date.

Subscription Rights exercisable into an aggregate of [_____] Units of Cytori ("Units") are being distributed in connection with the Rights Offering. Each Unit is comprised of one share of Common Stock and [_____] of a warrant to purchase an additional share of Common Stock. Each whole Subscription Right is exercisable, upon payment of \$[_____] in cash (the "Subscription Price"), to purchase one Unit (the "Basic Subscription Right"). In addition, each Subscription Right also carries the right to subscribe at the Subscription Price for additional Units that are not purchased by other holders pursuant to their Basic Subscription Right (to the extent available, and subject to proration and ownership limitations) (the "Over-Subscription Privilege"). A holder is entitled to exercise an Over-Subscription Privilege only if the holder fully exercises the Basic Subscription Right. See "The Rights Offering" in the Prospectus.

No fractional Subscription Rights or cash in lieu thereof will be issued or paid. Fractional Subscription Rights will be rounded down to the nearest whole number.

The Subscription Rights will expire at 5:00 p.m., Eastern Time, on [____], 2016, unless extended ("the "Expiration Date"). If you do not exercise your Subscription Rights before that time, your Subscription Rights will expire and will no longer be exercisable. Cytori will not be required to issue shares to you if the Subscription Agent receives your Subscription Rights Certificate or your subscription payment after that time. Cytori has the option to extend the Rights Offering in its sole discretion, although it does not presently intend to do so. Cytori may extend the Rights Offering by giving oral or written notice to the Subscription Agent before the Expiration Date. If Cytori elects to extend the Rights Offering, Cytori will issue a press release announcing the extension no later than 9:00 a.m., Eastern Time, on the next business day after the most recently announced Expiration Date of the Rights Offering.

The number of Subscription Rights to which you are entitled is printed on the face of your Subscription Rights Certificate. You should indicate your wishes with regard to the exercise of your Subscription Rights by completing the appropriate section on the back of your Subscription Rights Certificate and returning the Subscription Rights Certificate with your payment to the Subscription Agent in the envelope provided.

Warrants that are issued as a component of the Unit pursuant to the exercise of the Basic Subscription Rights and Over-Subscription Privilege entitle the holder to purchase one share of Common Stock at an exercise price (subject to adjustment) of \$ _____ per share. The Warrants are exercisable for cash, or solely during any period when a registration statement for the exercise of the Warrants is not in effect, on a cashless basis. The Warrants may be redeemed for \$0.01 per Warrant if Cytori's Common Stock closes above \$ _____ per share for 10 consecutive trading days. See "The Rights Offering" in the Prospectus.

YOUR SUBSCRIPTION RIGHTS CERTIFICATE MUST BE RECEIVED BY THE SUBSCRIPTION AGENT ON OR BEFORE THE EXPIRATION DATE. PAYMENT OF THE SUBSCRIPTION PRICE OF ALL SUBSCRIPTION RIGHTS EXERCISED, INCLUDING SUBSCRIPTION RIGHTS PURSUANT TO THE OVER-SUBSCRIPTION PRIVILEGE, INCLUDING FINAL CLEARANCE OF ANY CHECKS, MUST BE RECEIVED BY THE SUBSCRIPTION AGENT ON OR BEFORE THE EXPIRATION DATE. ONCE YOU EXERCISE YOUR SUBSCRIPTION RIGHTS, YOU CANNOT REVOKE THE EXERCISE OF SUCH SUBSCRIPTION RIGHTS. SUBSCRIPTION RIGHTS NOT VALIDLY EXERCISED PRIOR TO THE EXPIRATION DATE OF THE RIGHTS OFFERING WILL EXPIRE. IN CASE YOU HOLD SUBSCRIPTION RIGHTS THROUGH A BROKER OR OTHER NOMINEE, YOU SHOULD VERIFY WITH YOUR BROKER OR NOMINEE BY WHEN YOU MUST DELIVER YOUR INSTRUCTION.

1. Subscription Rights. To exercise Subscription Rights, complete your Subscription Rights Certificate and send your properly completed and executed Subscription Rights Certificate, together with payment in full of the Subscription Price for each Unit subscribed for pursuant to the Basic Subscription Right and the Over-Subscription Privilege, to the Subscription Agent. **PLEASE DO NOT SEND RIGHTS CERTIFICATES OR PAYMENTS TO CYTORI.** The method of delivery of the Subscription Rights Certificate and the payment of the Subscription Price to the Subscription Agent is at your election and risk. Subscription Rights Certificates and payments must be received by the Subscription Agent prior to the Expiration Date. If you send your Subscription Rights Certificate and payment by mail, then they should be sent by registered mail, properly insured, to arrive before the Expiration Date. If more Units are subscribed for pursuant to the Over-Subscription Privilege than are available for sale, additional Units will be allocated pro rata among holders and subject to ownership limitations, as described in the Prospectus. The Subscription Rights are non-transferable, and may not be sold, transferred, assigned or given away to anyone.

2. Acceptance of Payments. Payments will be deemed to have been received by the Subscription Agent only upon the (i) clearance of an uncertified personal check drawn against a U.S. bank payable to "Broadridge Corporate Issuer Solutions, Inc., as Subscription Agent for Cytori Therapeutics, Inc.," (ii) receipt of a certified check drawn against a U.S. bank payable to "Broadridge Corporate Issuer Solutions, Inc., as Subscription Agent for Cytori Therapeutics, Inc.," (iii) receipt of a U.S. Postal money order payable to "Broadridge Corporate Issuer Solutions, Inc., as Subscription Agent for Cytori Therapeutics, Inc.," or (iv) receipt of a wire transfer of immediately available funds directly to the account maintained by Broadridge Corporate Issuer Solutions, Inc., as Subscription Agent, for purposes of accepting subscriptions in this Rights Offering at [BANK, ABA, #[ABA#], Account # [ACCT #] FBO Cytori Therapeutics, Inc., with reference to the name of the Subscription Rights holder. Funds paid by uncertified personal check may take several business days to clear. Accordingly, if you wish to pay the Subscription Price by uncertified personal check, then you should make payment sufficiently in advance of the Expiration Date to ensure its receipt and clearance by that time. To avoid disappointment caused by a failure of your subscription due to your payment not clearing prior to the expiration date, Cytori urges you to consider payment by means of certified or cashier's check, money order or wire transfer. It is highly recommend that if you intend to pay the Subscription Price by personal check, then your subscription payment should be received by the Subscription Agent well before the Expiration Date. If your personal check does not clear before the Expiration Date, then you will not receive any Units, and Cytori's only obligation will be to return your subscription payment, without interest or deduction.

3. Contacting the Subscription Agent. The address and telephone number of the Subscription Agent are shown below. Delivery to an address other than shown below does not constitute valid delivery.

Broadridge Corporate Issuer Solutions, Inc.
1717 Arch Street, Suite 1300
Philadelphia, PA 19103
Attn: Re-Organization Department
Telephone: (855) 793-5068 (Toll-Free)

4. Partial Exercises; Effect of Over- and Under-Payments. If you exercise less than all of the Subscription Rights evidenced by your Subscription Rights Certificate, the Subscription Agent will issue to you a new Subscription Rights Certificate evidencing the unexercised Subscription Rights. However, if you choose to have a new Subscription Rights Certificate sent to you, you may not receive any such new Subscription Rights Certificate in sufficient time to permit exercise of the Subscription Rights evidenced thereby. If you do not indicate the number of Units to be subscribed for on your Subscription Rights Certificate, or if you indicate a number of Units that does not correspond with the aggregate Subscription Price payment you delivered, you will be deemed to have subscribed for the maximum number of Units that may be subscribed for, under both the Basic Subscription Right and the Over-Subscription Privilege, for the aggregate Subscription Price you delivered. If the Subscription Agent does not apply your full Subscription Price payment to your purchase of Units, then the Subscription Agent will return the excess amount to you by mail, without interest or deduction, within 10 business days after the Expiration Date. If you subscribe for fewer than all of the Units represented by your Subscription Rights Certificate, then the unexercised Subscription Rights will become null and void on the Expiration Date.

5. Deliveries to holders. The following deliveries and payments to you will be made to the address shown on the face of your Subscription Rights Certificate:

(a) **Basic Subscription Right.** The shares of Common Stock and Warrants that are purchased pursuant to the valid exercise of Basic Subscription Rights to purchase Units will be issued in book-entry, or uncertificated, form meaning that you will receive a direct registration (DRS) account statement from our transfer agent reflecting ownership of these securities if you are a holder of record of Common Stock. The Subscription Agent will arrange for the issuance of the Common Stock and Warrants as soon as practicable after the expiration of the Rights Offering, payment for the Units subscribed for has cleared, and all prorating calculations and reductions contemplated by the terms of the Rights Offering have been effected. If you hold your shares of Common Stock in the name of a custodian bank, broker, dealer, or other nominee, DTC will credit your account with your nominee with the securities you purchased in the Rights Offering.

(b) **Over-Subscription Privilege.** The shares of Common Stock and Warrants that are purchased pursuant to the valid exercise of Over-Subscription Privileges to purchase additional Units will also be issued in book-entry, or uncertificated, form meaning that you will receive a DRS account statement from our transfer agent reflecting ownership of these securities if you are a holder of record of Common Stock. The Subscription Agent will arrange for the issuance of the Common Stock and Warrants as soon as practicable after the expiration of the Rights Offering, payment for the Units subscribed for has cleared, and all prorating calculations and reductions contemplated by the terms of the Rights Offering have been effected. If you hold your shares of Common Stock in the name of a custodian bank, broker, dealer, or other nominee, DTC will credit your account with your nominee with the securities you purchased in the Rights Offering.

(c) **Excess Payments.** If you exercised your Over-Subscription Privilege and are allocated less than all of the Units for which you wished to oversubscribe, then your excess Subscription Price payment for Units that were not allocated to you will be returned by the Subscription Agent to you by mail, without interest or deduction, within 10 business days after the Expiration Date.

6. Execution.

(a) **Execution by Registered Holder.** The signature on the Subscription Rights Certificate must correspond with the name of the registered holder exactly as it appears on the face of the Subscription Rights Certificate without any alteration or change whatsoever. Persons who sign the Subscription Rights Certificate in a representative or other fiduciary capacity must indicate their capacity when signing and, unless waived by the Subscription Agent in its sole and absolute discretion, must present to the Subscription Agent satisfactory evidence of their authority so to act.

(b) **Execution by Person Other Than Registered Holder.** If the Subscription Rights Certificate is executed by a person other than the holder named on the face of the Subscription Rights Certificate, proper evidence of authority of the person executing the Subscription Rights Certificate must accompany the same unless the Subscription Agent, in its discretion, dispenses with proof of authority.

7. Method of Delivery. The method of delivery of Subscription Rights Certificates and payment of the Subscription Price to the Subscription Agent will be at the election and risk of the Subscription Rights holder. If sent by mail, it is recommended that they be sent by registered mail, properly insured, with return receipt requested, and that a sufficient number of days be allowed to ensure delivery to and receipt by the Subscription Agent prior to the Expiration Date.

8. **No Revocation.** If you exercise any of your Basic Subscription Rights or Over-Subscription Privilege, you will not be permitted to revoke or change the exercise or request a refund of monies paid. You should not exercise your Subscription Rights unless you are sure that you wish to purchase Units at the Subscription Price.

Once you exercise your Subscription Rights, you cannot revoke the exercise of such Subscription Rights even if you later learn information that you consider to be unfavorable and even if the market price of our Common Stock is below the Subscription Price.

9. **Special Provisions Relating to the Exercise of Subscription Rights through the Depository Trust Company.** In the case of Subscription Rights that are held of record through The Depository Trust Company ("DTC"), exercises of the Subscription Rights may be effected by instructing DTC to transfer Subscription Rights from the DTC account of such holder to the DTC account of the Subscription Agent, together with certification as to the aggregate number of Subscription Rights exercised pursuant to the Subscription Right by each beneficial owner of Subscription Rights on whose behalf such nominee is acting, and payment of the Subscription Price for each Unit subscribed for. Banks, brokers and other nominee holders of Subscription Rights who exercise the Basic Subscription Right and the Over-Subscription Privilege on behalf of beneficial owners of Subscription Rights will be required to certify to the Subscription Agent and Cytore as to the aggregate number of Subscription Rights that have been exercised, and the number of Units that are being subscribed for pursuant to the Over-Subscription Privilege, by each beneficial owner of Subscription Rights (including such nominee itself) on whose behalf such nominee holder is acting. In the event such certification is not delivered in respect of a Subscription Rights Certificate, the Subscription Agent shall for all purposes (including for purposes of any allocation in connection with the Over-Subscription Privilege) be entitled to assume that such certificate is exercised on behalf of a single beneficial owner.

10. **Questions and Request for Additional Materials.** For questions regarding the Rights Offering, assistance regarding the method of exercising Subscription Rights or for additional copies of relevant documents, please contact the Information Agent as follows:

Broadridge Corporate Issuer Solutions, Inc.
(855) 793-5068 (toll free)

**FORM OF
LETTER TO STOCKHOLDERS WHO ARE RECORD HOLDERS
CYTORI THERAPEUTICS, INC.**

Subscription Rights to Purchase Units
Offered Pursuant to Subscription Rights Distributed to Stockholders of Cytori Therapeutics, Inc.

[____], 2016

Dear Stockholder:

This letter is being distributed by Cytori Therapeutics, Inc. (the "Company") to all holders of record of shares of its common stock, \$0.001 par value per share (the "Common Stock") as of 5:00 p.m., Eastern Time, on [____], 2016 (the "Record Date"), in connection with a distribution in a rights offering (the "Rights Offering") of non-transferable subscription rights (the "Subscription Rights") to subscribe for and purchase units ("Units"). Each Unit entitles the holder to one share of the Company's Common Stock and [____] of a warrant to purchase one share of Common Stock. The Subscription Rights and Units are described in the prospectus dated [____], 2016 (a copy of which accompanies this notice) (the "Prospectus").

Pursuant to the Rights Offering, the Company is issuing Subscription Rights to subscribe for up to [____] Units on the terms and subject to the conditions described in the Prospectus, at a subscription price of \$[____] per Unit (the "Subscription Price").

The Subscription Rights may be exercised at any time during the subscription period, which commences on [____], 2016 and ends at 5:00 p.m., Eastern Time, on [____], 2016, unless extended in the sole discretion of the Company and Maxim Group LLC (as it may be extended, the "Expiration Date").

As described in the Prospectus, holders will receive one Subscription Right for every _____ shares of Common Stock owned on the Record Date, evidenced by non-transferable Subscription Rights certificates (the "Subscription Rights Certificates"). Each Subscription Right entitles the holder to purchase one Unit at the Subscription Price (the "Basic Subscription Right").

Holders who fully exercise their Basic Subscription Right will be entitled to subscribe for additional Units that remain unsubscribed as a result of any unexercised Basic Subscription Right (the "Over-Subscription Privilege"). Subject to stock ownership limitations described in the Prospectus, if sufficient Units are available, all Over-Subscription Privilege requests will be honored in full. If Over-Subscription Privilege requests for Units exceed the remaining Units available, the remaining Units will be allocated pro-rata among holders who over-subscribe based on the number of shares of Common Stock owned by all holders exercising the Over-Subscription Privilege. If this pro rata allocation results in any holders receiving a greater number of Units than the holder subscribed for, then such holder will be allocated only the number of Units for which the holder oversubscribed, and the remaining Units will be allocated among all holders exercising the Over-Subscription Privilege on the same pro rata basis described above. The proration process will be repeated until all Units have been allocated.

The Company will not issue fractional shares. Fractional shares resulting from the exercise of the Basic Subscription Rights and the Over-Subscription Privileges will be eliminated by rounding down to the nearest whole Unit. Any excess subscription payment received by the Subscription Agent will be returned, without interest or penalty, within 10 business days following the expiration of the Offering.

Enclosed are copies of the following documents:

1. Prospectus
2. Subscription Rights Certificate
3. Instructions As to Use of Subscription Rights Certificates
4. Notice of Important Tax Information
5. A return envelope, addressed to Broadridge Corporate Issuer Solutions, Inc. (the "Subscription Agent")

Your prompt attention is requested. To exercise your Subscription Rights, you should deliver the properly completed and signed Subscription Rights Certificate, with payment of the Subscription Price in full for each Unit subscribed for pursuant to the Basic Subscription Right and Over-Subscription Privilege, if applicable, to the Subscription Agent, as indicated in the Prospectus. The Subscription Agent must receive the properly completed and duly executed Subscription Certificate and full payment of the Subscription Price, including final clearance of any checks, prior to the Expiration Date.

You cannot revoke the exercise of your Subscription Right. Subscription Rights not exercised at or prior to 5:00 p.m., Eastern Time, on the Expiration Date will expire.

ANY QUESTIONS OR REQUESTS FOR ASSISTANCE CONCERNING THE RIGHTS OFFERING SHOULD BE DIRECTED TO BROADRIDGE CORPORATE ISSUER SOLUTIONS, INC., THE INFORMATION AGENT, TOLL-FREE AT (855) 793-5068.

**FORM OF
LETTER TO BROKERS, DEALERS, BANKS AND OTHER NOMINEES
CYTORI THERAPEUTICS, INC.**

Subscription Rights to Purchase Units
Offered Pursuant to Subscription Rights Distributed to Shareholders of Cytori Therapeutics, Inc.

[____], 2016

To Brokers, Dealers, Banks and Other Nominees:

This letter is being distributed by Cytori Therapeutics, Inc. (the "Company") to brokers, dealers, banks and other nominees in connection with the rights offering (the "Rights Offering") by Cytori Therapeutics, Inc. (the "Company") to subscribe for and purchase Units (as defined below), pursuant to non-transferable subscription rights ("Subscription Rights") distributed to all holders of record of the Company's common stock, \$0.001 par value per share (the "Common Stock"), as of 5:00 p.m., Eastern Time, on [____], 2016 (the "Record Date"). Each Unit entitles the holder to one share of the Company's Common Stock and [____] of a warrant to purchase one share of Common Stock. The Subscription Rights and Units are described in the prospectus dated [____], 2016 (a copy of which accompanies this notice) (the "Prospectus").

Pursuant to the Rights Offering, the Company is issuing Subscription Rights to subscribe for up to [____] Units on the terms and subject to the conditions described in the Prospectus, at a subscription price of \$[____] per Unit (the "Subscription Price").

The Subscription Rights may be exercised at any time during the subscription period, which commences on [____], 2016 and ends at 5:00 p.m., Eastern Time, on [____], 2016, unless extended in the sole discretion of the Company and Maxim Group LLC (as it may be extended, the "Expiration Date").

As described in the Prospectus, each beneficial owner of shares of Common Stock is entitled to one Subscription Right for every [____] shares of Common Stock owned by such beneficial owner on the Record Date, evidenced by non-transferable Subscription Rights certificates (the "Subscription Rights Certificates") registered in the record holder's name or its nominee. Each Subscription Right entitles holder to purchase one Unit at the Subscription Price (the "Basic Subscription Right").

Holders who fully exercise their Basic Subscription Right will be entitled to subscribe for additional Units that remain unsubscribed as a result of any unexercised Basic Subscription Right (the "Over-Subscription Privilege"). Subject to stock ownership limitations described in the Prospectus, if sufficient Units are available, all Over-Subscription Privilege requests will be honored in full. If Over-Subscription Privilege requests for Units exceed the remaining Units available, the remaining Units will be allocated pro-rata among holders who over-subscribe based on the number of shares of Common Stock held by all holders exercising the Over-Subscription Privilege. If this pro rata allocation results in any holder receiving a greater number of Units than the holder subscribed for, then such holder will be allocated only the number of Units for which the holder oversubscribed, and the remaining Units will be allocated among all holders exercising the Over-Subscription Privilege on the same pro rata basis described above. The proration process will be repeated until all Units have been allocated.

The Company will not issue fractional shares. Fractional shares resulting from the exercise of the Basic Subscription Rights and the Over-Subscription Privileges will be eliminated by rounding down to the nearest whole Unit. Any excess subscription payment received by the Subscription Agent will be returned, without interest or penalty, within 10 business days following the expiration of the Offering.

The Company is asking persons who hold shares of the Company's Common Stock beneficially, and who have received the Subscription Rights distributable with respect to those securities through a broker, dealer, bank, or other nominee, to contact the appropriate institution or nominee and request it to effect the transactions for them.

If you exercise Subscription Rights on behalf of beneficial owners, you will be required to certify to the Subscription Agent and the Company, in connection with such exercise, as to the aggregate number of Subscription Rights that have been exercised pursuant to the Basic Subscription Right, whether the Basic Subscription Rights of each beneficial owner of Subscription Rights on whose behalf you are acting has been exercised in full, and the number of Units being subscribed for pursuant to the Over-Subscription Privilege by each beneficial owner of Subscription Rights on whose behalf you are acting.

The Company is asking you to contact your clients for whom you hold shares of Common Stock registered in your name or the name of your nominee to obtain instruction with respect to the Subscription Rights.

Enclosed are copies of the following documents:

1. Prospectus
2. Subscription Rights Certificate
3. Instructions as to Use of Subscription Rights Certificates
4. Form of Letter to Shareholders Who are Beneficial Holders
5. Form of Beneficial Owner Election Form
6. Form of Nominee Holder Certification

All commissions, fees and other expenses (including brokerage commissions and transfer taxes), other than fees and expenses of the Subscription Agent, incurred in connection with the exercise of the Subscription Rights will be for the account of the holder, and none of such commissions, fees or expenses will be paid by the Company or the Subscription Agent.

Your prompt action is requested. To exercise the Subscription Rights, you should deliver the properly completed and signed Subscription Rights Certificate, with payment of the Subscription Price in full for each Unit subscribed for pursuant to the Basic Subscription Right and Over-Subscription Privilege, if applicable, to the Subscription Agent, as indicated in the Prospectus. The Subscription Agent must receive the properly completed and duly executed Subscription Rights Certificate and full payment of the Subscription Price, including final clearance of any checks, prior to the Expiration Date.

A holder cannot revoke the exercise of a Subscription Right. Subscription Rights not exercised at or prior to 5:00 p.m., Eastern Time, on the Expiration Date will expire.

ANY QUESTIONS OR REQUESTS FOR ASSISTANCE CONCERNING THE RIGHTS OFFERING SHOULD BE DIRECTED TO BROADRIDGE CORPORATE ISSUER SOLUTIONS, INC., THE INFORMATION AGENT, TOLL-FREE AT (855) 793-5068.

NOTHING HEREIN OR IN THE ENCLOSED DOCUMENTS SHALL MAKE YOU OR ANY OTHER PERSON AN AGENT OF THE COMPANY, THE DEALER-MANAGERS, THE SUBSCRIPTION AGENT, THE INFORMATION AGENT OR ANY OTHER PERSON MAKING OR DEEMED TO BE MAKING OFFERS OF THE SECURITIES ISSUABLE UPON VALID EXERCISE OF THE SUBSCRIPTION RIGHTS, OR AUTHORIZE YOU OR ANY OTHER PERSON TO MAKE ANY STATEMENTS ON BEHALF OF ANY OF THEM WITH RESPECT TO THE OFFERING, EXCEPT FOR STATEMENTS MADE IN THE PROSPECTUS.

**FORM OF
BROKER LETTER TO CLIENTS WHO ARE BENEFICIAL HOLDERS
CYTORI THERAPEUTICS, INC.**

Subscription Rights to Purchase Units
Offered Pursuant to Subscription Rights Distributed to Shareholders of Cytori Therapeutics, Inc.

[____], 2016

To our Clients:

This letter is being distributed to our clients who are holders of Cytori Therapeutics, Inc. (the "Company") common stock, \$0.001 par value per share (the "Common Stock"), as of 5:00 p.m., Eastern Time, on [____], 2016 (the "Record Date"), in connection with a distribution in a rights offering (the "Rights Offering") of non-transferable subscription rights (the "Subscription Rights") to subscribe for and purchase units ("Units"). Each Unit entitles the holder to one share of the Company's Common Stock and [____] of a warrant to purchase one share of Common Stock. The Subscription Rights and Units are described in the prospectus dated [____], 2016 (a copy of which accompanies this notice) (the "Prospectus").

Pursuant to the Rights Offering, the Company is issuing Subscription Rights to subscribe for up to [____] Units on the terms and subject to the conditions described in the Prospectus, at a subscription price of \$[____] per Unit (the "Subscription Price").

The Subscription Rights may be exercised at any time during the subscription period, which commences on [____], 2016 and ends at 5:00 p.m., Eastern Time, on [____], 2016, unless extended by the Company in its sole discretion (as it may be extended, the "Expiration Date").

As described in the Prospectus, holders will receive one Subscription Right for every [____] shares of Common Stock owned on the Record Date, evidenced by non-transferable Subscription Rights certificates (the "Subscription Rights Certificates"). Each Subscription Right entitles the holder to purchase one Unit at the Subscription Price (the "Basic Subscription Right").

Holders who fully exercise their Basic Subscription Right will be entitled to subscribe for additional Units that remain unsubscribed as a result of any unexercised Basic Subscription Right (the "Over-Subscription Privilege"). Subject to stock ownership limitations described in the Prospectus, if sufficient Units are available, all Over-Subscription Privilege requests will be honored in full. If Over-Subscription Privilege requests for Units exceed the remaining Units available, the remaining Units will be allocated pro-rata among holders who over-subscribe based on the number of shares of Common Stock held by all holders exercising the Over-Subscription Privilege. If this pro rata allocation results in any holders receiving a greater number of Units than the holder subscribed for, then such holder will be allocated only the number of Units for which the holder oversubscribed, and the remaining Units will be allocated among all holders exercising the Over-Subscription Privilege on the same pro rata basis described above. The proration process will be repeated until all Units have been allocated.

The Company will not issue fractional shares. Fractional shares resulting from the exercise of the Basic Subscription Rights and the Over-Subscription Privileges will be eliminated by rounding down to the nearest whole Unit. Any excess subscription payment received by the Subscription Agent will be returned, without interest or penalty, within 10 business days following the expiration of the Offering.

Enclosed are copies of the following documents:

1. Prospectus
2. Form of Beneficial Owner Election Form
3. Instructions As to Use of Subscription Rights Certificates

THE MATERIALS ENCLOSED ARE BEING FORWARDED TO YOU AS THE BENEFICIAL OWNER OF COMMON STOCK HELD BY US IN YOUR ACCOUNT BUT NOT REGISTERED IN YOUR NAME. EXERCISES OF SUBSCRIPTION RIGHTS MAY BE MADE ONLY BY US AS THE RECORD OWNER AND PURSUANT TO YOUR INSTRUCTIONS.

Accordingly, we request instructions as to whether you wish us to elect to subscribe for any Units to which you are entitled pursuant to the terms and subject to the conditions set forth in the enclosed Prospectus and other materials. However, we urge you to read the Prospectus and other enclosed materials carefully before instructing us to exercise your Subscription Rights.

Your instructions to us should be forwarded as promptly as possible in order to permit us to exercise Subscription Rights on your behalf in accordance with the provisions of the Rights Offering. The Rights Offering will expire at 5:00 p.m., Eastern Time, on the Expiration Date. You are encouraged to forward your instructions to us before the Expiration Date to allow us ample time to act upon your instructions. A holder cannot revoke the exercise of a Subscription Right.

If you wish to have us, on your behalf, exercise the Subscription Rights for any Units to which you are entitled, please so instruct us by timely completing, executing, and returning to us the Beneficial Owner Election Form enclosed with this notice.

ANY QUESTIONS OR REQUESTS FOR ASSISTANCE CONCERNING THE RIGHTS OFFERING SHOULD BE DIRECTED TO BROADRIDGE CORPORATE ISSUER SOLUTIONS, INC., THE INFORMATION AGENT, TOLL-FREE AT (855) 793-5068.

**FORM OF
BENEFICIAL OWNER ELECTION FORM
CYTORI THERAPEUTICS, INC.**

The undersigned acknowledge(s) receipt of your letter and the enclosed materials referred to therein relating to the rights offering (the "Rights Offering") by Cytori Therapeutics, Inc., a Delaware corporation (the "Company"), of non-transferable subscription rights (the "Subscription Rights") to purchase units (the "Units"), each such Unit comprised of a share of the Company's common stock, \$0.001 par value ("Common Stock"), and [] of a warrant to purchase an additional share of Common Stock.

This will instruct you whether to exercise Subscription Rights to purchase Units distributed with respect to the shares of the Common Stock held by you for the account of the undersigned, pursuant to the terms and subject to the conditions set forth in the Prospectus. (Check the applicable boxes and provide all required information.)

- Please DO NOT EXERCISE SUBSCRIPTION RIGHTS for Units.
- Please EXERCISE SUBSCRIPTION RIGHTS for Units as set forth below:

	No. of Units		Per Unit Subscription Price	=	Payment
Basic Subscription Right	[]	X	\$[]	=	\$[]
Over-Subscription Privilege	[]	X	\$[]	=	\$[]
Total Payment Required					\$[]

If you spoke with a broker who solicited such exercise, please indicate the name of the person you spoke with: .

- Payment in the following amount is enclosed \$_____ (must match Total Payment Required above)
- Please deduct payment from the following account maintained by you as follows:

Type of Account:

Account No.:

Amount to be deducted: \$

I (we) on my (our) own behalf, or on behalf of any person(s) on whose behalf, or under whose directions, I am (we are) signing this form:

- irrevocably elect to purchase the number of Units indicated above upon the terms and conditions specified in the Prospectus; and
- agree that if I (we) fail to pay for the shares I (we) have elected to purchase, the exercise will be invalid.

Signature:

Name:

Title:

Address:

Telephone:

Date: _____, 2016

**FORM OF
NOMINEE HOLDER CERTIFICATION
CYTORI THERAPEUTICS, INC.**

The undersigned, a bank, broker, dealer, trustee, depository, or other nominee of non-transferable subscription rights (the "Subscription Rights") to purchase units ("Units") of Cytori Therapeutics, Inc. (the "Company"), said Units each comprised of one share of common stock ("Common Stock") and [] of a warrant to purchase one share of Common Stock (a "Warrant") pursuant to the Subscription Rights offering described and provided for in the Company's Prospectus dated [], 2016, hereby certifies to the Company and Broadridge Corporate Issuer Solutions, Inc., as Subscription Agent for such Rights Offering, that (1) the undersigned has exercised, on behalf of the beneficial owners thereof (which may include the undersigned), the number of Subscription Rights on the terms and subject to the conditions set forth in the Prospectus specified below pursuant to the Basic Subscription Right (as defined in the Prospectus) and, on behalf of beneficial owners of Subscription Rights who have subscribed for the purchase of additional Units pursuant to the Over-Subscription Privilege (as defined in the Prospectus), the number of Units specified below, listing separately below each such exercised Basic Subscription Right and the corresponding Over-Subscription Privilege (without identifying any such beneficial owner), and (2) to the extent a beneficial owner has elected to subscribe for Units pursuant to the Over-Subscription Privilege, each such beneficial owner's Basic Subscription Right has been exercised in full:

Number of Shares Owned on the Record Date	Individual Soliciting Broker (if any)	Number of Units Subscribed for Pursuant to the Basic Subscription Right	Number of Units Subscribed for Pursuant to the Over-Subscription Privilege
1.			
2.			
3.			
4.			
5.			
6.			
7.			

Name of Nominee Holder

By:

Name:

Title:

Phone Number:

Fax Number:

Dated:

Provide the following information, if applicable:

DTC Participant Number

DTC Participant

By:

Name:

Title:

DTC Basic Subscription
Confirmation Number(s)

Dated:

**FORM OF
NOTICE OF IMPORTANT TAX INFORMATION
CYTORI THERAPEUTICS, INC.**

The tax information is provided in connection with the prospectus of Cytori Therapeutics, Inc. ("Cytori") dated [____], 2016 (the "Prospectus").

Under the U.S. federal income tax laws, dividend payments that may be made by Cytori on shares of its common stock, par value \$0.001 (the "Common Stock"), issued upon the exercise of non-transferable subscription rights (the "Subscription Rights") may be subject to backup withholding. Generally such payments will be subject to backup withholding unless the holder (i) is exempt from backup withholding or (ii) furnishes the payer with its correct taxpayer identification number ("TIN") and certifies, under penalties of perjury, that the number provided is correct and provides certain other certifications. Each holder that exercises Subscription Rights and wants to avoid backup withholding must, unless an exemption applies, provide the Subscription Agent, as Cytori's agent in respect of the exercised Subscription Rights, with such holder's correct TIN (or with a certification that such holder is awaiting a TIN) and certain other certifications by completing the enclosed Form W-9 (Request for Taxpayer Identification Number and Certification).

Certain holders (including, among others, corporations and certain foreign individuals) are exempt from these backup withholding and reporting requirements. In general, in order for a foreign holder to qualify as an exempt recipient, that holder must, in the case of a foreign individual, submit a properly completed Form W-8BEN, Certificate of Foreign Status of Beneficial Owner for United States Tax Withholding and Reporting (Individuals) or, in the case of a foreign corporation, Form W-8BEN-E, Certificate of Status of Beneficial Owner for United States Tax Withholding and Reporting (Entities) or other appropriate form (instead of a Form W-9), signed under the penalties of perjury, attesting to such holder's foreign status. Such Form W-8BEN or Form W-8BEN-E may be obtained from the Subscription Agent. Although a foreign holder may be exempt from backup withholding, payments of dividends may be subject to withholding tax, currently at a 30% rate (or, if certain tax treaties apply, such applicable lower rate) or withholding tax at a rate of 30% under FATCA unless an exemption from FATCA withholding is certified. Exempt U.S. holders should indicate their exempt status on Form W-9 to avoid possible erroneous backup withholding. See the enclosed Form W-9 (Request for Taxpayer Identification Number and Certification) for additional instructions. Holders are urged to consult their own tax advisors to determine whether they are exempt from withholding and reporting requirements.

If backup withholding applies, Cytori or the Subscription Agent, as the case may be, will be required to withhold (currently at a 28% rate) on any dividend payments made to a holder that exercises Subscription Rights. Backup withholding is not an additional tax. Rather, the amount of backup withholding can be credited against the U.S. federal income tax liability of the holder subject to backup withholding, provided that the required information is provided to the Internal Revenue Service ("IRS"). If backup withholding results in an overpayment of taxes, a refund may be obtained.

A holder that exercises Subscription Rights is required to give the Subscription Agent the TIN of the record owner of the Subscription Rights. If such record owner is an individual, the TIN is generally the taxpayer's social security number. For most other entities, the TIN is the employer identification number. If the Subscription Rights are in more than one name or are not in the name of the actual owner, consult the enclosed Form W-9 (Request for Taxpayer Identification Number and Certification) for additional guidelines on which number to report. If the Subscription Agent is not provided with the correct TIN in connection with such payments, the holder may be subject to a penalty imposed by the IRS.