



**Subscription Rights to Purchase Up to 6,896,551 Units
Consisting of an Aggregate of Up to 6,896,551 Shares of Common Stock
and Warrants to Purchase Up to 3,448,275 Shares of Common Stock
at a Subscription Price of \$2.90 Per Unit**

This Prospectus Supplement No. 1 amends and supplements the prospectus dated May 26, 2016, which forms a part of our Registration Statement on Form S-1 (Registration No. 333-210628). This Prospectus Supplement No. 1 is being filed to amend and supplement certain information included in the prospectus with the information contained in this Prospectus Supplement No. 1.

The prospectus and this Prospectus Supplement No. 1 relate to our distribution 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 0.5 of a warrant, which we refer to as the Warrants. Each whole Warrant will be exercisable for one share of our common stock. 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 each share of common stock owned at 5:00 p.m., Eastern Time, on May 20, 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.

On May 31, 2016, we determined that the subscription price for the Subscription Rights should be reduced to \$2.90 per Unit and that the Warrant exercise price should be reduced to \$3.48 per share. Accordingly, 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 \$2.90, 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 \$3.48 per share from the date of issuance through its expiration 30 months from the date of issuance. If you exercise your Basic Subscription Rights in full, and any portion of the Units remain available under the Rights Offering, 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 June 9, 2016, unless the Rights Offering is 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 the 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, 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 June 9, 2016, subject to our right to extend the Rights Offering as described above, and that we would close on subscriptions within five business days.

Our common stock is listed on The NASDAQ Capital Market, or NASDAQ, under the symbol "CYTX." On May 27, 2016, the last reported sale price of our common stock was \$2.96 per share. We have applied to list the Warrants on NASDAQ following their issuance under the symbol "CYTXW." The Subscription Rights are non-transferable 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	\$ 2.90	\$ 20,000,000
Dealer-Manager fees and expenses ⁽¹⁾	\$ 0.214	\$ 1,475,000
Proceeds to us, before expenses	\$ 2.686	\$ 18,525,000

(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 Supplement is May 31, 2016

This Prospectus Supplement No. 1 amends and supplements the prospectus to reflect the reduction of the subscription price of the non-transferable Subscription Rights from \$4.00 per Unit to \$2.90 per Unit and to make related changes. All references in the prospectus to 5,000,000 Units are hereby amended to reflect the 6,896,551 Units offered hereby. All references to the price per Unit of \$4.00 are hereby amended to \$2.90 per Unit. All references to the Warrant exercise price of \$4.80 per share are hereby amended to \$3.48 per share. All references to the Warrant redemption price of \$12.00 per Warrant are hereby amended to \$8.70 per Warrant.

The sections of the prospectus entitled "Summary of the Rights Offering" and "Dilution" sections of the prospectus are hereby replaced by the following new Summary of the Rights Offering and Dilution sections (which reflect the change to the subscription price of the non-transferable Subscription Rights). This Prospectus Supplement No. 1 also includes a new section entitled "Recent Developments – Nasdaq."

This Prospectus Supplement No. 1 should be read in conjunction with and is qualified by reference to the prospectus, except to the extent that the information provided by this Prospectus Supplement No. 1 supersedes the information contained in the Prospectus.

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 each share of our common stock that you owned on the Record Date. Each Unit consists of one share of common stock and 0.5 of a warrant.
Size of offering	6,896,551 Units.
Subscription Price	\$2.90 per Unit.
Warrants	Each whole Warrant entitles the holder to purchase one share of common stock at an exercise price of \$3.48 per share from the date of issuance through its expiration 30 months 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 \$8.70 per share for ten consecutive trading days, provided that we may not do so prior to the first anniversary of closing of the Rights Offering.
Record Date	5:00 p.m., Eastern Time, May 20, 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 in this prospectus.
Expiration date	The Subscription Rights will expire at 5:00 p.m., Eastern Time, on June 9, 2016.
Procedure for exercising Subscription Rights	<p>To exercise your Subscription Rights, you must take the following steps:</p> <p>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 June 9, 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.</p> <p>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 June 9, 2016.</p>
Delivery of shares and Warrants	As soon as practicable after the expiration of the Rights Offering, and within five business days thereof, we expect to close on subscriptions and for the Subscription Agent to 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 30 months from the date of issuance.
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 6,896,551 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 \$18.2 million. We intend to use approximately 55% of the net proceeds from the exercise of Subscription Rights for research and development, primarily our scleroderma clinical trials and, if funds remain, for further development of our Celution System products and other related research and development. In addition, we intend to use approximately 45% of the net proceeds for general corporate purposes, primarily sales and marketing initiatives relating to our potential commercialization of our ECCS-50 scleroderma therapy in Europe and, if funds remain, for 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 our sole discretion. 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.

RECENT DEVELOPMENTS – NASDAQ

On May 26, 2016, we received written notice from The Nasdaq Stock Market that we regained compliance with the Nasdaq Stock Market Listing Rule 5450(a)(1) concerning its minimum bid price. Accordingly, our securities will continue to be listed on The Nasdaq Stock Market, and the listing qualification matters previously disclosed by us have been closed.

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 March 31, 2016 was approximately \$(5.1) million, or \$(0.38) per share of our common stock (based upon 13,310,740 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 6,896,551 Units (consisting of 6,896,551 shares of our common stock and Warrants to purchase an aggregate of 3,448,275 shares of common stock upon exercise), at the Subscription Price of \$2.90 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 March 31, 2016 would have been approximately \$13.1 million, or \$0.65 per share. This represents an immediate increase in pro forma net tangible book value to existing stockholders of \$1.03 per share and an immediate dilution to purchasers in the Rights Offering of \$2.25 per share. The following table illustrates this per-share dilution:

Subscription Price		\$ 2.90
Net tangible book value per share as of March 31, 2016	\$ (0.38)	
Increase in net tangible book value per share attributable to Rights Offering	\$ 1.03	
Pro forma net tangible book value per share as of March 31, 2016, after giving effect to Rights Offering		\$ (2.25)
Dilution in net tangible book value per share to purchasers in the Rights Offering		\$ 0.65

The information above is as of March 31, 2016 and excludes:

- 829,074 shares of common stock issuable upon the exercise of stock options outstanding as of March 31, 2016 with a weighted average exercise price of \$29.10 per share;
 - 17,960 shares of common stock issuable upon the vesting of outstanding restricted stock awards;
 - 99,412 shares of common stock available for future grants under our 2014 Equity Incentive Plan as of March 31, 2016; and
 - 66,667 shares of common stock available for future grants under our 2015 New Employee Incentive Plan as of March 31, 2016; and
 - 218,380 shares of our common stock issuable upon the exercise of outstanding warrants as of March 31, 2016 with a weighted-average exercise price of \$22.20 per share.
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PROSPECTUS

Subscription Rights to Purchase Up to 6,896,551 Units
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and Warrants to Purchase Up to 3,448,275 Shares of Common Stock
at a Subscription Price of \$2.90 Per Unit

Dealer-Manager

Maxim Group LLC

May 31, 2016