STEMCELLS INC Form S-1 May 23, 2016 Table of Contents

As filed with the Securities and Exchange Commission on May 23, 2016

Registration No. 333-

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM S-1

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

STEMCELLS, INC.

Delaware (State or other jurisdiction of

94-3078125 (I.R.S. Employer

incorporation or organization)

Identification No.)

7707 Gateway Blvd

Newark, CA 94560

(510) 456-4000

(Address, including zip code, and telephone number, including area code, of registrant s principal executive offices)

Ian Massey

President and Chief Executive Officer

StemCells, Inc.

7707 Gateway Blvd

Newark, CA 94560

(510) 456-4000

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Marko Zatylny

Ropes & Gray LLP

Prudential Tower, 800 Boylston Street

Boston, MA 02199

(617) 951-7000

Approximate date of commencement of proposed sale to public: From time to time 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, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. x

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please 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.

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

CALCULATION OF REGISTRATION FEE

	Proposed	
Title of Each Class Of	Maximum Aggregate	
Securities To Be Registered Common Stock, par value \$0.01 per share(1)	Offering Price \$30,000,000	Amount Of Registration Fee \$3,021.00(2)
Non-transferable Rights to purchase Common Stock, par value \$0.01 per share	Ψ30,000,000	\$0.00(3)

- (1) This registration statement relates to: (a) non-transferable subscription rights to purchase common stock of the Registrant, which subscription rights are to be distributed to holders of the Registrant s common stock and of certain of the Registrant s warrants; and (b) the shares of common stock deliverable upon the exercise of the subscription rights pursuant to the rights offering.
- (2) Calculated pursuant to Rule 457(o) of the Securities Act of 1933, as amended, based on an estimate of the proposed maximum aggregate offering price.
- (3) Evidencing the rights to subscribe for [] shares of common stock pursuant to Rule 457(g) under the Securities 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, which rights are being issued for no consideration.

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 SEC, acting pursuant to said Section 8(a), may determine.

THE INFORMATION IN THIS PROSPECTUS IS NOT COMPLETE AND MAY BE CHANGED. THE SECURITIES MAY NOT BE SOLD UNTIL THE REGISTRATION STATEMENT FILED WITH THE SECURITIES AND EXCHANGE COMMISSION IS EFFECTIVE. THIS PROSPECTUS IS NOT AN OFFER TO SELL THESE SECURITIES AND IT IS NOT SOLICITING AN OFFER TO BUY THESE SECURITIES IN ANY STATE WHERE THE OFFER OR SALE IS NOT PERMITTED.

Subject to Completion, dated May 23, 2016

PROSPECTUS

Non-Transferable Subscription Rights to Purchase up to Shares

of Common Stock at \$ per Share

and the Shares Issuable pursuant to such Subscription Rights

Subject to the conditions described in this prospectus, we are distributing, at no charge, to our holders of our common stock and our warrants, non-transferable subscription rights to purchase an aggregate of up to shares of our common stock, par value \$0.01 per share (the common stock). We refer to this offering as the rights offering. You will receive a subscription right to purchase of a share of common stock at a price of \$ per share for each whole share of common stock that you owned, or in the case of holders of warrants, would own upon exercise of your warrants, as of 5:00 p.m., Eastern Time, on , 2016, the record date. If you exercise your subscription rights in full, and other stockholders and warrant holders do not fully exercise their subscription rights, you will be entitled to an over-subscription privilege to purchase a portion of the unsubscribed shares of common stock at the subscription price, subject to proration and ownership limitations, which we refer to as the over-subscription privilege.

The subscription rights will expire if they are not exercised at 5:00 p.m., Eastern Time, on , 2016, unless we extend the subscription rights offering period. We may extend the expiration of the rights offering and the period for exercising your subscription rights in our sole discretion. You should carefully consider whether to exercise your subscription rights prior to the expiration of the rights offering. All exercises of subscription rights are irrevocable, even if we extend the expiration of the rights offering. We are not making any recommendation regarding your exercise of the subscription rights.

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 to act as dealer-manager[s] in the rights offering.

Investing in our common stock involves risks. See <u>Risk Factors</u> beginning on page 14 of this prospectus. You should carefully consider these risk factors, as well as the information contained in this prospectus, before you invest.

We have agreed with Broadridge Corporate Issuer Solutions, Inc. to serve as the rights agent for the rights offering. The rights agent will hold in escrow 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 rights agent well before that deadline. If you want to participate in this rights offering and you hold shares or warrants through your broker, dealer, custodian 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, custodian bank or other nominee. For a detailed discussion, see The Rights Offering The Subscription Rights.

We are not requiring an overall minimum subscription to complete the rights offering. However, we reserve the right to terminate the rights offering for any reason at any time before it expires. If we terminate the rights offering, all subscription payments received will be returned promptly, without interest or penalty.

Our common stock is listed on NASDAQ under the symbol STEM. On , 2016, the last reported sale price for our common stock on NASDAQ was \$ per share.

	Per	
	Subscription Right	Total(2)
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 fees to the dealer-manager[s] equal to:
- (2) Assumes the rights offering is fully subscribed.

Our Board of Directors is not making any recommendation regarding your exercise of the subscription rights. You should carefully consider whether to exercise your subscription rights prior to the expiration of the rights offering.

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[s]

The date of this prospectus is , 2016

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LETTER FROM OUR CHIEF EXECUTIVE OFFICER

QUESTIONS AND ANSWERS RELATING TO THE RIGHTS OFFERING

The following are examples of what we anticipate will be common questions about the rights offering. The answers are based on selected information from this prospectus and the documents incorporated by reference herein. 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 herein contain more detailed descriptions of the terms and conditions of the rights offering and provide additional information about us and our business, including potential risks related to the rights offering, our common stock and our business. We urge you to read this entire prospectus and the documents incorporated by reference into this prospectus.

What is the rights offering?

Subject to the conditions described below, we will distribute to holders of our common stock and our warrants as of the record date of . 2016, at no charge, non-transferable subscription rights to purchase shares of our common stock. You will receive subscription right for each share of common stock you owned as of 5:00 p.m., Eastern Time, on the record date. The subscription rights will not be tradable. Each subscription right entitles the holder to a basic subscription right and an over-subscription privilege, which is described below. 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 is each basic subscription right?

Each basic subscription right gives the holder the opportunity to purchase of a share of our common stock at a per share for each whole share of common stock owned (as well as holders our warrants, subscription price of \$ as described below) as of 5:00 p.m., Eastern Time, on , 2016, the record date. Only whole rights are exercisable and any fractional rights remaining after aggregating all of the subscription rights issued to you will be rounded down to the nearest whole number. You will not receive any payment with respect to fractional rights that are rounded down. In the rights offering, we will grant to you, as a stockholder or warrant holder of record as of 5:00 p.m., Eastern Time, on the record date, rights for each share of our common stock you owned at that time, or would own upon exercise of your warrants. For example, if you owned 100 shares of our common stock as of 5:00 p.m., Eastern Time, on the record date, you would receive subscription rights and would have the right to purchase shares of common stock (rounded down from approximately shares of common stock) for \$ with your subscription rights. You may exercise any whole number of your subscription rights, or you may choose not to exercise any subscription rights. In order to properly exercise your subscription right, you must deliver the subscription payment and a properly completed subscription rights certificate provided to you, or if you hold your rights through a broker, dealer, custodian bank or other nominee, complete and return to your record holder the form entitled Beneficial Owner Election Form or such other appropriate documents as are provided by your record holder related to your subscription right prior to the expiration of the rights offering.

If you hold your shares in the name of a broker, dealer, custodian bank or other nominee who uses the services of the Depository Trust Company, or DTC, DTC will issue the appropriate number of subscription rights to your nominee for each share of our common stock you own, or would own upon exercise of your warrants, on the record date. The subscription right of each whole subscription right can then be used to purchase share of common stock for per share. If you are not contacted by your nominee, you should contact your nominee as soon as possible.

What is the over-subscription privilege?

We do not expect all of our rights holders to exercise all of their subscription rights. The over-subscription privilege provides rights holders that exercise all of their basic subscription rights the opportunity to purchase the shares that are not purchased by other rights holders. If you fully exercise your basic subscription right, the over-

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subscription privilege of each right entitles you to subscribe for additional shares of our common stock unclaimed by other holders of rights in this rights offering at the same subscription price per share. If an insufficient number of shares are available to fully satisfy all over-subscription privilege requests, the available shares will be distributed proportionately among rights holders who exercise their over-subscription privilege based on the number of shares each rights holder subscribed for under the basic subscription right.

In order to properly exercise your over-subscription privilege, you must deliver the subscription payment for exercise of your over-subscription privilege before the expiration of the rights offering. Because we will not know the total number of unsubscribed shares before the expiration of the rights offering, 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 price for the maximum number of shares available, assuming that no rights holder other than you has purchased any shares pursuant to their basic subscription right and over-subscription privilege. The rights agent will return any excess payments by mail without interest or deduction promptly after the expiration of the subscription period. See The Rights Offering The Subscription Rights Over-Subscription Privilege.

What should I do if I want to participate in the rights offering but my shares or warrants are held in the name of my broker, dealer, custodian bank or other nominee?

If you hold your shares of our common stock or warrants in the name of a broker, dealer, custodian bank or other nominee, then your broker, dealer, custodian bank or other nominee is the record holder of the shares you own. The record holder must exercise the subscription rights on your behalf for the shares of our common stock you wish to purchase.

If you wish to participate in the rights offering and purchase shares of our common stock, please promptly contact the record holder of your shares. We will ask your broker, dealer, custodian bank or other nominee to notify you of the rights offering. You should complete and return to your record holder the form entitled Beneficial Owner Election Form. You should receive this form from your record holder with the other rights offering materials.

Will fractional subscription rights be issued?

No. We will not issue fractional subscription rights in the rights offering. Fractional subscription rights remaining after aggregating all of the rights distributed to you will be rounded down to the nearest whole number of share a holder would otherwise be able to purchase. You will not receive any payment with respect to fractional shares that are rounded down.

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 in connection with the Pathway Study, other related research and development expenditures, general administrative expenses, working capital and capital expenditures.

How was the subscription price determined?

We established a pricing committee (the Pricing Committee) of our Board of Directors, comprised of Eric Bjerkholt, Scott Greer and Ricardo Levy. The terms of the rights offering, including the subscription price, was approved by the Pricing Committee. The subscription price was determined based on a variety of factors, including historical and current trading prices for our common stock, general business conditions, our need for capital, alternatives available to us for raising capital, potential market conditions, and our desire to provide an opportunity to our stockholders and

warrant holders to participate in the rights offering on a pro rata basis. In conjunction with its review of these factors, the Pricing Committee also reviewed our history and prospects, including our past and present earnings and cash requirements, our prospects for future earnings, and the outlook

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for our industry, and our current financial condition. The Pricing Committee also believed that the subscription price should be designed to provide an incentive to our current stockholders and warrant holders to participate in the rights offering and exercise their basic subscription rights 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.

Am I required to exercise all of the subscription rights I receive in the rights offering?

No. You may exercise any whole number of your subscription rights, or you may choose not to exercise any subscription rights. If you do not exercise any subscription rights, the number of shares of our common stock you own will not change. However, if you choose not to exercise your subscription rights, your proportionate ownership interest in the Company will be diluted by the issuance of shares to others who do choose to exercise their subscription rights.

How soon must I act to exercise my subscription rights?

If you received a subscription rights certificate and elect to exercise any or all of your subscription rights, the rights agent must receive your completed and signed subscription 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.

The subscription rights may be exercised at any time beginning after the commencement of the rights offering and prior to the expiration of the rights offering. The rights offering will expire at 5:00 p.m., Eastern Time, on the date that is days after the commencement of the rights offering. The rights offering is currently expected to expire at 5:00 p.m., Eastern Time, on , 2016. If you elect to exercise any rights, the rights agent must actually receive all required documents and payments from you prior to the expiration of the rights offering. If your required subscription exercise documentation is received by the rights agent after the expiration of the rights offering, we may, in our sole discretion, choose to accept your subscription, but we shall be under no obligation to do so. We may extend the expiration of the rights offering in our sole discretion. However, we currently do not intend to extend the expiration of the rights offering.

When will I receive my subscription rights certificate?

As soon as practicable after the conditions to the commencement of the rights offering described below have been met, we will distribute the subscription rights certificates to individuals who owned shares of our common stock or who owned warrants to purchase shares of our common stock, in each case, as of 5:00 p.m., Eastern Time, on , 2016 based on our stockholder registry maintained at the transfer agent for our common stock. However, if you hold your shares of common stock in street name through a broker, dealer, custodian bank or other nominee, you will not receive an actual subscription rights certificate. Instead, as described in this prospectus, you must instruct your broker, dealer, custodian bank or other nominee whether or not to exercise rights on your behalf. If

you wish to obtain a separate subscription rights certificate, you should promptly contact your broker, dealer, custodian bank or other nominee and request a separate subscription rights certificate. It is not necessary to have a physical subscription rights certificate to elect to exercise your rights if your shares are held by a broker, dealer, custodian bank or other nominee.

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May I transfer my subscription rights?

No. The subscription rights may be exercised only by the stockholders or the warrant holders 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, subscription rights certificates may be completed only by the stockholder who receives the certificate. The subscription rights will not be listed for trading on any stock exchange or market.

Are we requiring a minimum subscription to complete the rights offering?

No.

Are there any conditions to completing the rights offering?

No.

Can we extend, terminate or amend the rights offering?

Yes. We may decide to terminate the rights offering at any time and for any reason before the closing of the rights offering. If we terminate the rights offering, any money received from subscribing rights holders will be returned promptly, without interest or penalty. We also have the right to extend the expiration of the rights offering for additional periods at our sole discretion. If we elect to extend the expiration of the rights offering, we will issue a press release announcing such extension no later than 9:00 a.m., Eastern Time, on the next business day after the most recently announced expiration date. We do not presently intend to extend the expiration of the rights offering.

How do I exercise my subscription rights? What forms and payment are required to purchase shares of common stock?

If you are a stockholder of record (meaning you hold your shares of our common stock or warrants in your name and not through a broker, dealer, bank, or other nominee) or a holder of our warrants and you wish to participate in the rights offering, you must deliver a properly completed and signed subscription 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 rights agent before 5:00 p.m., Eastern Time, on , 2016. If you are exercising your subscription rights through your broker, dealer, custodian bank or other nominee, you should promptly contact your broker, dealer, custodian bank or other nominee and submit your subscription documents and payment for the shares of common stock subscribed for in accordance with the instructions and within the time period provided by your broker, dealer, custodian bank or other nominee.

If you cannot deliver your subscription rights certificate to the rights agent prior to the expiration of the rights offering, you may follow the guaranteed delivery procedures described under The Rights Offering Guaranteed Delivery 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 full extent possible based on the amount of the payment received.

When will I receive my new shares?

If you purchase shares of our common stock through the rights offering, you will receive your new shares as soon as practicable after the closing of the rights offering.

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After I send in my payment and subscription rights certificate, may I cancel my exercise of subscription rights?

No. All 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 and even if we extend the expiration of the rights offering. You should not exercise your subscription rights unless you are certain that you wish to purchase additional shares of our common stock at a subscription price of \$ per share.

Will holders of our warrants be permitted to participate in the rights offering?

Holders of our outstanding warrants are permitted to participate in the rights offering. As of May , 2016, we had outstanding warrants to purchase an aggregate of additional shares of common stock at a weighted average exercise price of \$. Of that total, there were warrants to purchase an aggregate of shares of common stock outstanding with a per share exercise price of between \$ and \$, and the weighted average exercise price of those warrants was \$. All holders of our outstanding warrants may participate in the rights offering without first exercising their warrants for shares of common stock, as if such warrants had been exercised for the maximum possible number of shares of common stock that such warrant could be exercised for on the date immediately prior to the record date.

As a warrant holder, will the exercise price of my warrants be adjusted if I participate in the rights offering?

If at least % of all shares represented by unexercised warrants, collectively across all series of our outstanding warrants, participate in the rights offering, the exercise price of all outstanding warrants will reset to \$ per share. By way of example, as of the record date, there were warrants outstanding to purchase shares of our common stock. If holders of warrants representing at least shares exercise in full their subscription rights in this offering, then the exercise price for all outstanding warrants will be reset to \$ per share. A reduction in the exercise price of our warrants may result in additional dilution to the extent any warrants are exercised following a reduction of the exercise price. See Risk Factors .

How many shares of our common stock will be outstanding after the rights offering?

Approximately shares of our common stock are issued and outstanding as of May , 2016. If the rights offering is fully subscribed, meaning that we issue the maximum possible number of shares of common stock upon exercise of rights, including 100% participation of the warrant holders we will issue an aggregate of shares in connection with the rights offering in exchange for an exercise price of \$ per share, or an aggregate of \$. Please see Use of Proceeds and The Rights Offering.

Are any of the Company s officers or directors participating 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 stockholders.

Have any other stockholders indicated that they will exercise their rights?

To our knowledge, none of our other stockholders have indicated whether or not they will exercise rights in the rights offering.

How much will our Company receive from the rights offering?

If the rights offering is fully subscribed, meaning that we issue the maximum possible number of shares of common stock upon exercise of rights, including 100% participation of the warrant holders (even though some warrants are currently out of the money), we expect to receive an aggregate of approximately \$ from the sale of shares pursuant to the rights offering. See Use of Proceeds.

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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 should be considered as carefully as you would consider any other equity investment. Among other things, you should carefully consider the risks described under the heading Risk Factors in this prospectus and the documents incorporated by reference herein.

If the rights offering is not completed, will my subscription payment be refunded to me?

Yes. The rights agent will hold all funds it receives in a segregated bank account until completion of the rights offering. If the rights offering is not completed, all subscription payments received by the rights agent will be returned, without interest, as soon as practicable. If you own shares in street name, it may take longer for you to receive payment because the rights agent will return payments through the record holder of the shares.

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

We will not mail this prospectus or the subscription rights certificates to stockholders whose addresses are outside the United States or who have an army post office or foreign post office address. The rights agent will hold the subscription rights certificates for their account. To exercise subscription rights, our foreign stockholders must notify the rights agent and timely follow the procedures described in The Rights Offering Foreign Stockholders.

What fees or charges apply if I purchase shares of common stock?

We are not charging any fee or sales commission to issue subscription rights to you or to issue shares to you if you exercise your subscription rights. If you hold your shares through a nominee and exercise your subscription rights through the record holder of your shares, you are responsible for paying any fees your record holder may charge you.

What are the U.S. federal income tax consequences of exercising subscription rights?

For U.S. federal income tax purposes, we believe and intend to take the position that you generally should not recognize income or loss in connection with the receipt or exercise of subscription rights for U.S. federal income tax purposes, but the treatment of the receipt and exercise of subscription rights is unclear in certain respects. You are urged to consult your own tax advisor as to your particular tax consequences resulting from the receipt and exercise of subscription rights and the receipt, ownership and disposition of our common stock. For further information, please see Risk Factors The tax treatment of the rights offering may be treated as a taxable event to you and 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, custodian bank or other nominee, then you should send your beneficial owner election form and subscription payment to that record holder. If you are the record holder, then you should send your subscription rights certificate and subscription payment by hand delivery, first class mail or courier service to:

By hand or overnight courier:

Broadridge Corporate Issuer Solutions, Inc.

Attn: BCIS IWS,

51 Mercedes Way

Edgewood, NY 11717.

By mail:*

Broadridge Corporate Issuer Solutions, Inc.

Attn: BCIS Re-Organization Dept., P.O. Box 1317

Brentwood, NY 11717.

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^{*} If your chosen delivery method is USPS Priority Mail or USPS Registered Mail, you must utilize the overnight courier address.

You are solely responsible for completing delivery of your subscription rights certificate and payment to the rights agent or, if you are not a record holder your beneficial owner election form and payment to your broker, dealer, custodian bank or other nominee. We urge you to allow sufficient time for delivery of your subscription materials to the rights agent or your broker, dealer, custodian bank or other nominee.

Whom should I contact if I have other questions?

If you have other questions or need assistance, please contact the rights agent, Broadridge Corporate Issuer Solutions, Inc., at (855) 793-5068.

Who are the dealer-managers?

and will act as dealer-manager[s] for the rights offering. Under the terms and subject to the conditions contained in the dealer-manager agreement, the dealer-manager[s] will use their best efforts to solicit the exercise of subscription rights. We have agreed to pay the dealer-manager[s] for certain fees for acting as dealer-manager[s]. The dealer-manager[s] [are/is] not underwriting or placing any of the subscription rights issued in this 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).

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PROSPECTUS SUMMARY

The following is a summary of selected information contained elsewhere or incorporated by reference in this prospectus. It does not contain all of the information that you should consider before buying our securities. You should read this entire prospectus, including the information incorporated by reference herein, carefully, especially the section entitled Risk Factors and Note Regarding Forward-Looking Statements and the consolidated financial statements and related notes.

Unless otherwise indicated all historical and pro forma common stock and per share data in this prospectus have been retroactively restated to the earliest period presented to account for the one-for-twelve reverse stock split that became effective on May 9, 2016.

The Company

Business Overview

We are engaged in researching, developing, and commercializing cell-based therapeutics. Our research and development (R&D) programs are primarily focused on identifying and developing potential cell-based therapeutics which can either restore or support organ function. In particular, since we relocated our operations to California in 1999, our R&D efforts have been directed at refining our methods for identifying, isolating, culturing, and purifying the human neural stem cell and developing this cell as potential cell-based therapeutics for the central nervous system (CNS). Our HuCNS-SC® cells (purified human neural stem cells) are currently in clinical development for several indications, with a primary focus on chronic spinal cord injury.

In 2015, we completed our Phase I/II clinical trial for the treatment of chronic spinal cord injury, which represents the first time that neural stem cells have been transplanted as a potential therapeutic agent for spinal cord injury. The Phase I/II trial evaluated both safety and preliminary efficacy of our proprietary HuCNS-SC human neural stem cells as a treatment for chronic thoracic spinal cord injury. Under this trial, a total of twelve patients with either complete and incomplete injuries as classified by the American Spinal Injury Association Impairment Scale (AIS) were enrolled and transplanted with our HuCNS-SC cells; seven patients with complete injury (AIS A) and five patients with an incomplete injury (AIS B). In May 2015, we reported the results from twelve-month data that revealed sustained improvements in sensory function that emerged consistently around three months after transplantation and persisted until the end of the study. The patterns of sensory gains were confirmed to involve multiple sensory pathways and were observed more frequently in the patients with less severe injury; three of the seven AIS A patients and four of the five AIS B patients showed signs of positive sensory gains confirming the previously reported interim results. In addition, two patients progressed during the study from the most severe classification, AIS A, to the lesser degree of injury grade, AIS B.

In October 2014, we initiated a Phase II proof of concept clinical trial to further investigate our HuCNS-SC cells as a treatment for spinal cord injury. Our Phase II Pathway Study is the first clinical trial designed to evaluate both the safety and efficacy of transplanting human neural stem cells into patients with cervical spinal cord injury. Traumatic injuries to the cervical (neck) region of the spinal cord, also known as tetraplegia or quadriplegia, impair sensation and motor function of the hands, arms, legs, and trunk. The Pathway Study is being conducted as a randomized, controlled, single-blind study and efficacy will be primarily measured by assessing motor function according to the International Standards for Neurological Classification of Spinal Cord Injury. The primary efficacy outcome will focus on change in upper extremity strength as measured in the hands, arms, and shoulders. The trial will follow the participants for one year and will enroll up to 52 subjects. The trial has three cohorts; the first cohort is an open-label dose escalation arm involving six patients to determine the cell dose to be used for the second and third cohort of the

study; the second cohort will enroll forty patients and forms the single-blinded controlled arm of the Phase II study with the primary efficacy outcome being tested is the change in motor strength of the various muscle groups in the upper extremities innervated by the cervical spinal cord; the third cohort is an optional open label cohort targeted to enroll six patients to assess safety and

preliminary efficacy in patients with less severe injuries (AIS C). We transplanted our first subject in this Phase II trial in December 2014 and completed transplanting the six patients comprising the first cohort of this trial in April 2015. The six-month interim results for the first cohort showed an overall pattern of motor improvement in four of the six patients as measured by gains in both strength and fine motor skills. In addition, four of the six patients showed improvement in the spinal level of injury as defined by the ISNCSCI (International Standards for Neurological Classification of Spinal Cord Injury) assessment of at least one level. Consistent with our prior study in chronic spinal cord injury, changes in muscle strength and function were observed around three months post-transplant. We commenced enrollment of the second cohort in the Pathway Study in June 2015.

We previously completed a Phase I clinical trial in infantile and late infantile neuronal ceroid lipofuscinosis (NCL), which showed that our HuCNS-SC cells were well tolerated and non-tumorigenic, and that there was evidence of engraftment and long-term survival of the transplanted HuCNS-SC cells. In October 2013, the results of a four-year, long-term follow up study of the patients from the initial Phase I study in NCL showed there were no long-term safety or tolerability issues associated with the cells up to five years post-transplantation.

In October 2012, we published in Science Translational Medicine, a peer-reviewed journal, the data from our four-patient Phase I clinical trial in PMD, which showed preliminary evidence of durable and progressive donor-derived myelination in all four patients. In addition, there were measurable gains in neurological function in three of the four patients, with the fourth patient clinically stable.

Our Corporate Information

We are incorporated in Delaware. Our principal executive offices are located at 7707 Gateway Blvd., Suite 140, Newark, California 94560 and our telephone number is (510) 456-4000. Our website is located at www.stemcellsinc.com. We have not incorporated by reference into this prospectus supplement or the accompanying prospectus the information in, or that can be accessed through, our website, and you should not consider it to be a part of this prospectus supplement or the accompanying prospectus.

Recent Developments

Our Board of Directors authorized the one-for-twelve reverse stock split that became effective on May 9, 2016. All prior periods presented in this prospectus have been adjusted to reflect the one-for-twelve reverse stock split. Financial information updated by this capital change includes earnings per common share, stock price per common share, weighted average common shares, outstanding common shares and common stock.

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The Rights Offering

The following summary describes the principal terms of the rights offering, but is not intended to be complete. See the information under the heading The Rights Offering in this prospectus for a more detailed description of the terms and conditions of the rights offering.

Securities Offered

Subject to the conditions described in this prospectus, we are distributing, at no charge, to our stockholders and to our warrant holders, non-transferable subscription rights to purchase shares of our common stock for each share of common stock owned at 5:00 p.m., Eastern Time, as of the record date set forth below. For a summary of the treatment of outstanding warrants to purchase shares of common stock in the rights offering, see Treatment of Warrants below.

Record Date

5:00 p.m., Eastern Time,

, 2016.

Expiration of the Rights Offering

The rights offering will expire at 5:00 p.m., Eastern Time, on the date that is days after the commencement of the rights offering. The rights offering is currently expected to expire at 5:00 p.m., Eastern Time, on , 2016. We may extend the expiration of the rights offering in our sole discretion. If your required subscription exercise documentation is received by the rights agent after the expiration of the rights offering, we may, in our sole discretion, choose to accept your subscription, but we shall be under no obligation to do so.

Subscription Price

\$ per each whole share, payable in cash. To be effective, any payment related to the exercise of a right must clear prior to the expiration of the rights offering.

Use of Proceeds

We intend to use the net proceeds of this offering for general corporate purposes, including working capital, capital expenditures and research and development, as well as acquisitions and other strategic purposes. See Use of Proceeds.

Basic Subscription Right

Holders of our common stock or our warrants will receive a subscription right to purchase of a share of common stock for a price of \$ per each whole share. The number of subscription rights you may exercise appears on your subscription rights certificate or beneficial owner election form.

Over-Subscription Privilege

If you exercise your basic subscription rights in full, you may also choose to purchase a portion of any shares of our common that are not purchased by our other rights holders through the exercise of their basic subscription rights, subject to proration and stock ownership limitations described elsewhere.

Non-Transferability of 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.

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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 based on your own assessment of our business and the rights offering. Please see Risk Factors for a discussion of some of the risks involved in investing in our common stock.

Conditions

We are not requiring a minimum subscription to complete the rights offering.

No Revocation

All 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 and even if we extend the expiration of the rights offering. You should not exercise your subscription rights unless you are certain that you wish to purchase additional shares of our common stock at a subscription price of \$ per each whole share.

U.S. Federal Income Tax Considerations

We believe and intend to take the position that you generally should not recognize income or loss in connection with the receipt or exercise of subscription rights for U.S. federal income tax purposes. However the rules applicable to the receipt and exercise of subscription rights are complicated and unclear in certain respects, and it is possible that the Internal Revenue Service (IRS) could challenge our position. You are urged to consult your own tax advisor as to your particular tax consequences resulting from the receipt and exercise of subscription rights and the receipt, ownership and disposition of our common stock. For further information, please see Risk Factors The tax treatment of the rights offering may be treated as a taxable event to you and Material U.S. Federal Income Tax Consequences.

Extension, Amendment, Withdrawal and Termination

The period for exercising your subscription rights may be extended by us in our sole discretion. We may extend the expiration date of the rights offering by giving oral or written notice to the rights agent on or before the scheduled expiration date. If we elect to extend the expiration of the rights offering, we will issue a press release announcing such extension no later than 9:00 a.m., Eastern Time, on the next business day after the most recently announced expiration date.

Procedures for Exercising Rights

To exercise your subscription rights, a holder of record must complete the subscription rights certificate and deliver it to the rights agent, Broadridge Corporate Investor Solutions, Inc., together with full payment for all the subscription rights and any over-subscription privilege you elect to exercise under the subscription right. A beneficial owner must complete the beneficial owner election form and deliver it to their broker,

dealer, bank or nominee, together will full payment for all subscription rights and any over-subscription privilege you elect to exercise under the subscription right. You may deliver such subscription documents and payments by mail or commercial carrier. If regular mail is used for this purpose, we recommend using registered mail, properly insured, with return receipt requested or, if you are not a record holder.

If you cannot deliver your subscription rights certificate to the rights agent prior to the expiration of the rights offering, you may follow the guaranteed delivery procedures described under The Rights Offering Guaranteed Delivery Procedures.

Rights Agent

Broadridge Corporate Investor Solutions, Inc.

Shares Outstanding Before the Record Date Approximately

shares of our common stock will be issued and outstanding as of May , 2016

Rights Offering

Shares Outstanding After Completion of the If the rights offering is fully subscribed, meaning that we issue the maximum possible number of shares of common stock upon exercise of rights, including 100% participation of the warrant holders, we will issue an aggregate of shares in connection with the rights offering in exchange for an aggregate exercise price of \$

Risk Factors

Stockholders and warrant holders considering making an investment by exercising subscription rights in the rights offering or by purchasing rights in the open market or otherwise should carefully read and consider the information set forth in Risk Factors beginning on page prospectus, the documents incorporated by reference herein and the risks that we have highlighted in other sections of this prospectus.

Market for common stock

Our common stock is listed on NASDAQ under the trading symbol STEM.

Treatment of Warrants

As of May , 2016, we had outstanding warrants to purchase an additional shares of common stock. Holders of our aggregate of warrants may participate in the rights offering without first exercising their warrants for shares of common stock, as if such warrants had been exercised for the maximum possible number of shares of common stock that such warrant could be exercised for on the date immediately prior to the record date.

Dealer-Manager[s]

and

Distribution arrangements

Under the terms and subject to the conditions contained in the dealer-manager agreement, the dealer-manager[s] will use their best efforts to solicit the exercise of subscription rights. We have agreed to pay the dealer-manager[s] certain fees for acting as dealer-manager[s].

The dealer-manager[s] [are/is] not underwriting or placing any of the subscription rights being issued in this offering and [do/does] not make any recommendation with respect to such subscription rights (including with respect to the exercise or expiration of such subscription rights).

RISK FACTORS

Investing in our securities involves a high degree of risk. You should read and carefully consider and evaluate the Risk Factors and Note Regarding Forward-Looking Statements included and incorporated by reference in this prospectus, including the risk factors under the heading. Item 1A. Risk Factors incorporated by reference from our Annual Report on Form 10-K for the year ended December 31, 2015, our Quarterly Report on Form 10-Q for the quarter ended March 31, 2016, and in any other reports that we file with the Securities and Exchange Commission (the SEC) pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended (the Exchange Act), filed after such quarterly report. The information included or incorporated by reference in this prospectus may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future. For a description of these reports and documents, and information about where you can find them, see the sections entitled. Where You Can Find Additional Information and Incorporation of Certain Documents by Reference in this prospectus.

The risks and uncertainties we describe are not the only ones facing us. Additional risks not presently known to us, or that we currently deem immaterial, may also impair our business operations. If any of these risks were to occur, our business, financial condition, or results of operations would likely suffer. In that event, the trading price of our common stock could decline and you could lose all or part of your investment.

Risks Related to the Rights Offering

and

Our stock price has been, and will likely continue to be, highly volatile, and may decline before or after the subscription rights expire.

The market price per share of our common stock has been and is likely to continue to be highly volatile due to the risks and uncertainties described under the caption Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2015, as well as other factors, including:

our ability to develop and test our technologies;

our ability to patent or obtain licenses to necessary technologies;

conditions and publicity regarding the industry in which we operate, as well as the specific areas our product candidates seek to address;

competition in our industry;

economic and other external factors or other disasters or crises;

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price and volume fluctuations in the stock market at large that are unrelated to our operating performance;

comments by securities analysts, or our failure to meet market expectations.

Over the two-year period ended May 20, 2016, the trading price of our common stock as reported on the NASDAQ Capital Market ranged from a high of \$29.16 to a low of \$2.45 per share. As a result of this volatility, an investment in our stock is subject to substantial risk. Furthermore, the volatility of our stock price could negatively impact our ability to raise capital or acquire businesses or technologies.

We cannot assure you that the market price of our common stock will not 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. 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 rights agent pursuant to the exercise of subscription rights.

Your interest in our Company may be diluted as a result of this rights offering.

Stockholders who do not fully exercise 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 basic subscription rights and over-subscription privilege. Even if a stockholder fully exercises its subscription rights, such stockholder should expect to own a smaller proportioned interest in our Company if warrant holders exercise their subscription rights. Further, because the price per share of our common stock 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 shares of common stock 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.

Our stock could be delisted from NASDAQ, which could affect our stock s market price and liquidity. Our listing on NASDAQ is contingent upon meeting all the continued listing requirements of NASDAQ which include maintaining a minimum bid price of not less than \$1.00 per share and a minimum of \$2.5 million in stockholders equity. NASDAQ Listing Rule 5810(c)(3)(A) provides that a failure to meet the minimum bid price requirement exists if the deficiency continues for a period of 30 consecutive business days.

On May 14, 2015, we received written notice from NASDAQ that the closing bid price for our common stock had been below \$1.00 per share for the previous 30 consecutive business days, and that we were therefore not in compliance with the requirements for continued inclusion on NASDAQ under NASDAQ Listing Rule 5550(a)(2). In accordance with NASDAQ Listing Rule 5810(c)(3)(A), we had 180 calendar days, or until November 10, 2015, to regain compliance with the minimum bid price requirement. To regain compliance with the \$1.00 minimum bid listing requirement of NASDAQ, the closing bid price per share of our common stock would have to be \$1.00 or higher for a minimum of ten consecutive business days during this initial 180-day compliance period.

On November 11, 2015, we were notified by NASDAQ that we had not regained compliance with the minimum \$1.00 bid price per share requirement. However, NASDAQ determined that we are eligible under NASDAQ Listing Rule 5810(c)(3)(A) for an additional 180 calendar day period, or until May 9, 2016, to regain compliance. This second 180 day period relates exclusively to the bid price deficiency.

On May 6, 2016, we effected a one-for-twelve reverse stock split. As a result of the reverse stock split, each twelve shares of the Company s common stock automatically combined into and became one share of Company common stock. Our price per share at May 10, 2016 was \$2.90, above the minimum bid price. On May 20, 2016 we received a clearance letter from NASDAQ notifying us that we had regained compliance with the minimum \$1.00 bid price per share requirement.

If our common stock is delisted from NASDAQ, our ability to raise capital in the future may be limited. Delisting could also result in less liquidity for our stockholders and a lower stock price. Such a de-listing would likely have a negative effect on the price of our common stock and would impair your ability to sell or purchase our common stock when you wish to do so. In the event of a de-listing, we expect to take actions to restore our compliance with NASDAQ s listing requirements, but we can provide no assurance that any action taken by us would result in our common stock becoming listed again, or that any such action would stabilize the market price or improve the liquidity of our common stock.

The rights offering may cause the price of our common stock to decrease.

The number of shares of common stock we could issue if the rights offering is completed, including with respect to warrant holders who are entitled to participate in the rights offering without first exercising their warrants, may result in an immediate decrease in the trading price of our common stock. This decrease may continue after the completion of the rights offering. If that occurs, your purchase of shares of our common stock

in the rights offering may be at a price greater than the prevailing trading price of our common stock in the aftermath of the completion of the rights offering. Further, if a substantial number of subscription rights are exercised, and the holders of the shares received upon exercise of those subscription rights choose to sell some or all of those shares, the resulting sales could depress the market price of our common stock.

We may enter into other financing transactions, including an equity line sales agreement, during the subscription rights offering period which may cause the price of our common stock to decrease.

In order to raise additional capital, we may 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 in this offering. On May 5, 2016, we held our Annual Meeting of Stockholders at which our stockholders approved the sale of up to \$16 million in shares of our common stock to a single institutional investor through a committed equity line purchase agreement. We may sell shares or other securities in any future offering at a price per share that is lower than the price per share paid by investors in this offering, including during the subscription rights offering period, which would result in those newly issued shares being dilutive and may cause the price of our common stock to decrease. In addition, investors purchasing shares or other securities in the future could have rights superior to existing stockholders, which could impair the value of your shares. 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 subscription price paid by investors in this offering.

Completion of the rights offering is not subject to 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.

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.

The subscription price for this offering is not an indication of the value of our common stock.

The subscription price is not necessarily related to our book value, net worth or any other established criteria of value and may or may not be considered the fair value of our common stock to be offered in the rights offering. We cannot give any assurance that our common stock will trade at or above the subscription price in any given time period. After the date of this prospectus, our common stock may trade at prices above or below the subscription price.

We may be or become the target of class action 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, stockholders 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.

Price adjustment provisions in certain of our outstanding warrants may make it more difficult and expensive for us to raise additional capital in the future and may result in further dilution to investors.

Certain of our warrants contain full ratchet anti-dilution provisions that would result in an adjustment to the conversion price of the warrants if we issue or are deemed to issue additional shares of our common stock at an effective per share price below the then-existing exercise price, subject to certain exceptions.

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As of March 31, 2016, we had outstanding 2011 Series A warrants to purchase a total of 578,074 shares of common stock at an exercise price of \$3.60 per share (the 2011 Series A Warrants), outstanding 2016 Series A warrants to purchase a total of 1,227,598 shares of common stock at an exercise price of \$3.60 per share (the 2016 Series A Warrants) and outstanding 2016 Series B warrants to purchase a total of 1,916,396 shares of common stock at an exercise price of \$5.04 per share (the 2016 Series B Warrants). Each of the 2011 Series A, 2016 Series A and 2016 Series B Warrants contain full ratchet anti-dilution provisions that would result in an adjustment to their respective exercise prices if we issue or are deemed to issue additional shares of our common stock at an effective per share price below their existing exercise price per share, subject to certain exceptions. The 2011 Series A Warrants expire in December 2016.

As part of this offering, we may decide to reset the exercise price of all our warrants. A reduction in the exercise price of our warrants may result in additional dilution if any warrants are exercised following a reduction of the exercise price.

Because our management will have broad discretion over the use of the proceeds from the rights offering, you may not agree with how we use the proceeds, and we may not invest the proceeds successfully.

We have complete discretion over the use of the proceeds from the rights offering. In addition, market factors may require us to allocate portions of the proceeds for other purposes. Accordingly, you will be relying on our management with regard to the use of the proceeds from the rights offering, 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 the proceeds will be invested in a way that does not yield a favorable, or any, return for the Company.

If we terminate this offering, neither we nor the rights agent will have any obligation to you except to return your subscription payments.

If we withdraw or terminate this offering, neither we nor the rights agent will have any obligation with respect to rights that have been exercised except to return, without interest or deduction, any subscription payments the rights agent received from you.

You may not revoke your subscription exercise, even if we extend the expiration of the rights offering, and you could be committed to buying shares above the prevailing market price.

Once you exercise your subscription rights, you may not revoke the exercise of such rights. If we decide to exercise our option to extend the expiration of the rights offering, you still may not revoke the exercise of your subscription rights. The public trading market price of our common stock may decline before the subscription rights expire. If you exercise your subscription rights and, afterwards, the public trading market price of our common stock decreases below the subscription price, you will have committed to buying shares of our common stock at a price above the prevailing market price. Our common stock is traded on NASDAQ under the symbol STEM, and the last reported sales price of our common stock on NASDAQ on May , 2016 was \$ per share. Following the exercise of your rights, you may be unable to sell your shares of our common stock at a price equal to or greater than the subscription price you paid for such shares, and you may lose all or part of your investment in our common stock.

If you do not act promptly and follow the subscription instructions, your exercise of subscription rights will be rejected.

Holders of subscription rights that desire to purchase shares in the rights offering must act promptly to ensure that all required forms and payments are actually received by the rights agent prior to the expiration of the rights offering. If

you are a beneficial owner of shares, you must act promptly to ensure that your broker, dealer, custodian bank or other nominee acts for you and that all required forms and payments are actually received by

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the rights agent prior to the expiration of the rights offering. We are not responsible if your broker, dealer, custodian bank or nominee fails to ensure that all required forms and payments are actually received by the rights agent prior to the expiration of the rights offering. 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 the rights offering prior to the expiration of the rights offering, the rights agent will reject your subscription or accept it only to the extent of the payment and documentation received. Neither we nor our rights 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 complies with the subscription procedures.

If you make payment of the subscription price by uncertified check, your check may not clear in sufficient time to enable you to purchase shares in this rights offering.

Any uncertified check used to pay for shares 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 (5) or more business days. If you choose to exercise your subscription rights, in whole or in part, and to pay for shares by uncertified 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 you wish to purchase.

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

Exercise of the over-subscription privilege will only be honored if and to the extent that the basic subscription rights have not been exercised in full. If sufficient shares of common stock are available, we will seek to honor your over-subscription request in full. If, however, over-subscription requests exceed the number of shares of common stock available to be purchased pursuant to the over-subscription privilege, we will allocate the available shares of common stock proportionately among stockholders and warrant holders who exercised their over-subscription privileges based on the number of shares each stockholder subscribed for under their basic subscription rights, subject to proration and ownership limitations. As a result, you may not receive any or all of the shares of common stock for which you exercise your over-subscription privilege.

As soon as practicable after the expiration date, the rights agent will determine the number of shares of common stock that you may purchase pursuant to the over-subscription privilege. If you request and pay for more shares than are allocated to you, we will refund the overpayment, without interest or deduction. In connection with the exercise of the over-subscription privilege, brokers, dealers, custodian banks and other nominees of subscription rights who act on behalf of stockholders or warrant holders will be required to certify to us and to the rights agent as to the aggregate number of subscription rights exercised, and the number of shares of common stock requested through the over-subscription privilege, by each stockholder or warrant holder on whose behalf the nominee is acting.

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) 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 rights 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.

The tax treatment of the rights offering may be treated as a taxable event to you

We believe and intend to take the position that the distribution of the subscription rights in connection with the rights offering generally should not be a taxable event to holders of our common stock or holders of our

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warrants for U.S. federal income tax purposes. If the rights offering is deemed to be part of a disproportionate distribution under Section 305 of the Internal Revenue Code of 1986, as amended (the Code), the receipt of the subscription rights may be treated as the receipt of a taxable distribution, and holders of our common stock and holders of our warrants may recognize taxable income for U.S. federal income tax purposes in connection with the receipt of subscription rights in the rights offering. Holders of our common stock and holders of our warrants are urged to consult their own tax advisor with respect to the tax consequences of the rights offering. Please see Material U.S. Federal Income Tax Consequences for further information on the U.S. federal income tax treatment of the rights offering.

You may not be able to immediately resell any shares of our common stock that you purchase pursuant to the exercise of subscription rights upon expiration of the subscription rights offering period.

If you exercise subscription rights, you may not be able to resell the common stock purchased by exercising your subscription rights until you, or your broker, dealer, custodian bank or other nominee, if applicable, have received those shares. Moreover, you will have no rights as a stockholder in the shares you purchased in the rights offering until we issue the shares to you. Although we will endeavor to issue the shares as soon as practicable after completion of the rights offering and after all necessary calculations have been completed, there may be a delay between the expiration date of the rights offering and the time that the shares are issued.

The dealer-manager[s] [are/is] not underwriting, nor acting as placement agents of, the subscription rights or the securities underlying the subscription rights.

and will act as dealer-manager[s] for this rights offering. Under the terms and subject to the conditions contained in the dealer-manager agreement, the dealer-manager[s] will provide marketing assistance in connection with this offering. The dealer-manager[s] [are/is] not underwriting or placing any of the subscription rights being issued in this 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). The dealer-manager[s] 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[s]. The services of the dealer-manager[s] to us in this connection cannot be construed as any assurance that this offering will be successful.

Refusal by Maxim Group LLC to grant a waiver releasing the lock-up of our common stock could limit our ability to raise capital and adversely affect your rights as a stockholder.

On March 9, 2016, in connection with an earlier financing, we entered into an underwriting agreement with Maxim Group LLC (<u>Maxim</u>) containing provisions which may restrict our ability to sell shares of our common stock in the Rights Offering until July 9, 2016. By the terms of this underwriting agreement, Maxim may, at its discretion, release us from this lock-up agreement at any time after May 9, 2016, which would allow for sales of shares in the public market, including shares underlying the subscription rights offered in the Rights Offering. Maxim has so far refused to release us from the lock-up. If Maxim continues to refuse to grant us a waiver from the lock-up, we may not be able to proceed with this offering. Maxim s interests may not be the same as, or may conflict with, the interests of our stockholders and actions that Maxim takes with respect to the waiver may not be favorable to us or our stockholders. If Maxim s consent were to be required to complete the Rights Offering, it may be able to restrict the issuance of shares, irrespective of the business decisions of our board of directors or the outcomes of stockholder votes, and thereby limit our ability to raise funds necessary to continue the Company s operations.

Our ability to use net operating loss carryovers to reduce future tax payments may be limited.

As of $\,$, we had net operating loss carryforwards ($\,$ NOLs $\,$) for U.S. federal income tax purposes of approximately $\,$ \$ $\,$. We generally are able to carry NOLs forward to reduce taxable income in future years.

These NOLs begin to expire at . However, our ability to utilize the NOLs is subject to the rules of Section 382 of the Code. Section 382 generally restricts the use of NOLs after an ownership change. An ownership change occurs if, among other things, the stockholders (or specified groups of stockholders) who own or have owned, directly or indirectly, five percent (5%) or more of our common stock or are otherwise treated as five percent (5%) stockholders under Section 382 and the regulations promulgated thereunder increase their aggregate percentage ownership of our stock by more than 50 percentage points over the lowest percentage of the stock owned by these stockholders over a three-year rolling period. In the event of an ownership change, Section 382 imposes an annual limitation on the amount of taxable income a corporation may offset with NOLs. This annual limitation is generally equal to the product of the value of our stock on the date of the ownership change, multiplied by the long-term tax-exempt rate published monthly by the Internal Revenue Service. Any unused annual limitation may be carried over to later years until the applicable expiration date for the respective NOLs.

The rules of Section 382 are complex and subject to varying interpretations. Because of our numerous capital raises, uncertainty exists as to whether we may have undergone an ownership change in the past or will undergo one as a result of the rights offering. Accordingly, no assurance can be given that our NOLs will be fully available.

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NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated in this prospectus contain forward looking statements that involve substantial risks and uncertainties. These forward-looking statements generally can be identified by the use of words such as anticipate, plan, could, may, will, believe, estimate, forecast. goal. expect, project, and meaning. Such statements include, without limitation, all statements as to expectation or belief and statements as to our future results of operations; the progress of our research, product development and clinical programs; the need for, and timing of, additional capital and capital expenditures; partnering prospects; costs of manufacture of products; the protection of, and the need for, additional intellectual property rights; effects of regulations; the need for additional facilities; potential market opportunities; our anticipated use of proceeds from this offering; and our ability to consummate the offering. Our actual results may vary materially from those contained in such forward-looking statements because of risks to which we are subject, including the fact that additional trials will be required to confirm the safety and demonstrate the efficacy of our HuCNS-SC cells for the treatment of any disease or disorder; uncertainty as to whether the U.S. Food and Drug Administration or other regulatory authorities will permit us to proceed with clinical testing of proposed products despite the novel and unproven nature of our technologies; the risk that our clinical trials or studies could be substantially delayed beyond their expected dates or cause us to incur substantial unanticipated costs; uncertainties in our ability to obtain the capital resources needed to continue our current research and development operations and to conduct the research, preclinical development and clinical trials necessary for regulatory approvals; the uncertainty regarding our ability to obtain a corporate partner or partners, if needed, to support the development and commercialization of our potential cell-based therapeutics products; the uncertainty regarding the outcome of our clinical trials or studies we may conduct in the future; the uncertainty regarding the validity and enforceability of our issued patents; the risk that we may not be able to manufacture additional master and working cell banks when needed; the uncertainty as to whether our preclinical studies will be replicated in humans; the uncertainty whether any products that may be generated in our cell-based therapeutics programs will prove clinically safe and effective; the uncertainty whether we will achieve significant revenue from product sales or become profitable; obsolescence of our technologies; competition from third parties; intellectual property rights of third parties; litigation risks; and other risks to which we are subject. All forward-looking statements attributable to us or to persons acting on our behalf are expressly qualified in their entirety by the cautionary statements and risk factors set forth in Item 1A. Risk Factors and elsewhere in our Annual Report on Form 10-K for the year ended December 31, 2015, as updated by our other filings with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act filed after such annual report or in additional prospectus supplements related to this offering.

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USE OF PROCEEDS

If the rights offering is fully subscribed, meaning that we issue the maximum possible number of shares of common stock upon exercise of rights, including 100% participation of the warrant holders, we expect to receive an aggregate of approximately \$\frac{1}{2}\$ from the sale of shares pursuant to the rights offering after deducting estimated offering expenses payable by us.

We intend to use the net proceeds of this offering for general corporate purposes, including working capital, capital expenditures, research and development expenditures and clinical trial expenditures. A portion of the net proceeds may also be used for the acquisition of businesses, products and technologies that are complementary to ours, or for other strategic purposes, although we have no current understandings, commitments or agreements to do so. Pending use of the net proceeds, we intend to invest the net proceeds in short-term, interest-bearing, investment-grade securities.

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DILUTION

Purchasers of our common stock in the rights offering 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 \$(6,895,000), or \$(0.59) per share of our common stock (based upon 11,601,880 shares of our common stock outstanding as of March 31, 2016). Net tangible book value per share is equal to our total net tangible book value, which is our total tangible assets less our total liabilities, divided by the number of shares of our outstanding common stock. Dilution per share equals the difference between the amount per share paid by purchasers of shares of common stock in the rights offering and the net tangible book value per share of our common stock immediately after the rights offering.

After giving effect to the assumed sale of shares in the rights offering, at the assumed subscription price of \$ per share, and after deducting estimated offering expenses and dealer-manager fees payable by us of \$, and the application of the estimated \$ of net proceeds from the rights offering, our pro forma net tangible book value as of March 31, 2016 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 (assuming a fully subscribed for rights offering of at the assumed subscription price of \$ per share):

Subscription Price	\$
Net tangible book value per share as of March 31, 2016, before rights offering	\$
Increase in net tangible book value per share attributable to rights offering	
Pro forma net tangible book value per share as of March 31, 2016, after giving effect to rights offering	
Dilution in net tangible book value per share to purchasers	\$

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

155,831 shares of common stock subject to options outstanding as of March 31, 2016;

6,883,814 shares of common stock that have been reserved for issuance upon the exercise of outstanding warrants as of March 31, 2016;

810,946 shares of our common stock subject to outstanding restricted stock units as of March 31, 2016; and

1,016,949 shares of common stock are available for issuance upon future grants under our stock option plans at March 31, 2016.

To the extent that any options or warrants are exercised, new options are issued under our equity incentive plans or we otherwise issue additional shares of common stock in the future at a price less than the public offering price, there will be further dilution to new investors.

DESCRIPTION OF CAPITAL STOCK

As of the date of this prospectus, we are authorized to issue up to 201 million shares of capital stock, par value \$0.01 per share, divided into two classes designated, respectively, common stock and preferred stock. Of such shares authorized, 200 million shares are designated as common stock, and 1 million shares are designated as preferred stock.

The following is a summary of the material terms of our capital stock and certain provisions of our restated certificate of incorporation and amended and restated bylaws. Since the terms of our certificate of incorporation and bylaws, and Delaware law, are more detailed than the general information provided below, you should only rely on the actual provisions of those documents and Delaware law. If you would like to read those documents, they are on file with the SEC, as described under the heading Where You Can Find Additional Information below.

On May 6, 2016, we filed a Certificate of Amendment (the Amendment) to our Amended and Restated Certificate of Incorporation to implement a one-for-twelve reverse split of our common stock (the Reverse Stock Split). As a result of the Reverse Stock Split, each twelve shares of the Company s issued and outstanding common stock were automatically combined and converted into one issued and outstanding share of common stock. The Reverse Stock Split affected all issued and outstanding shares of the Company s common stock, as well as common stock underlying stock options, restricted stock units and warrants outstanding immediately prior to the effectiveness of the Reverse Stock Split. In addition, the Amendment decreased the number of authorized shares of the Company s common stock from 225 million to 200 million. The Reverse Stock Split did not alter the par value of common stock, which remained at \$0.01 per share, or modify any voting rights or other terms of our common stock. Unless otherwise indicated, all information set forth herein gives effect to such Reverse Stock Split.

As of May , 2016, there were approximately million shares of common stock outstanding that were held of record by approximately stockholders, although we believe that there is a significantly larger number of beneficial owners of our common stock.

NASDAQ Capital Market Listing

Our common stock is listed for quotation under the symbol STEM.

Transfer Agent And Registrar

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

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PRICE RANGE OF OUR COMMON STOCK AND DIVIDEND INFORMATION

Our common stock is listed on NASDAQ under the symbol STEM. As of the Record Date, we had shares of common stock outstanding and approximately registered stockholders. The last reported sales price of our common stock on , 2016, the last full trading day prior to the date of this prospectus, was \$ per share. We intend to employ all available funds for the development of our business and, accordingly, we do not intend to pay any cash dividends in the foreseeable future.

Set forth below are the high and low sales prices for our common stock as reported by the NASDAQ for the two most recently completed fiscal years, the first fiscal quarter of the current fiscal year and the period from April 1, 2016 through May 20, 2016:

	Low(1)	High(1)
<u>2014</u>		
First Quarter	\$ 15.48	19.08
Second Quarter	\$ 14.16	25.68
Third Quarter	\$ 15.12	28.08
Fourth Quarter	\$ 10.20	15.48
<u>2015</u>		
First Quarter	\$ 11.76	16.56
Second Quarter	\$ 6.00	12.12
Third Quarter	\$ 4.56	7.08
Fourth Quarter	\$ 4.68	6.60
<u>2016</u>		
First Quarter	\$ 3.00	5.16
Second Quarter (through 5/20/16)	\$ 2.45	\$ 4.44

⁽¹⁾ Adjusted for the Company s one-for-twelve reverse stock split of outstanding shares on May 9, 2016. On May 20, 2016, the closing price for our common stock as reported on NASDAQ was \$2.94. We have never paid any dividends on our common stock and have no intention to do so for the foreseeable future.

THE RIGHTS OFFERING

The Subscription Rights

We are distributing to the record holders of our common stock and our outstanding warrants, as of 5:00 p.m., Eastern Time, on the record date, non-transferable rights to purchase shares of our common stock at a subscription price of \$ per share. The rights will entitle the holders of our common stock and our outstanding warrants, to purchase approximately an aggregate of shares of our common stock for an aggregate purchase price of \$.

Basic Subscription Rights

In this distribution, each holder of record of our common stock and our outstanding warrants will receive a basic subscription right to purchase of a share of common stock at a price of \$ per share for each whole share of our common stock owned by such holder or would be owned upon exercise of their warrants as of 5:00 p.m., Eastern Time, on the record date. 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 for \$ per share for each whole share 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 shares of our common stock available, however, we will allocate the available shares pro rata among the stockholders and warrant holders 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, or in the case of warrant holders, would have owned on the record date had they exercised their warrants before 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 or warrant holder receiving a greater number of shares 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 shares for which the record holder oversubscribed, and the remaining shares will be allocated among all other stockholders and warrant holders exercising the over-subscription privilege on the same pro rata basis described above. The proration process will be repeated until all shares have been allocated.

Broadridge Corporate Issuer Solutions, Inc., the rights 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 shares of common stock 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 shares of common stock available to you, and any excess subscription payments will be returned to you, without interest or deduction, with ten (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 shares of common stock 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 shares pursuant to the over-subscription privilege if all of our rights holders

exercise their basic subscription rights in full, and we will only honor an over-subscription privilege to the extent sufficient shares of common stock are available following the exercise of basic subscription rights.

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Effects of the Rights Offering on Outstanding Warrant Exercise Price

If at least % of all shares represented by unexercised warrants, collectively across all series of our outstanding warrants, participate in the rights offering, the exercise price of all outstanding warrants will reset to \$ per share. By way of example, as of the record date, there were warrants outstanding to purchase shares of our common stock. If holders of warrants representing at least shares exercise in full their subscription rights in this offering, then the exercise price for all outstanding warrants will be reset to \$ per share.

Dilutive Effects of the Rights Offering

If you choose not to exercise your rights, your ownership interest in the Company will be diluted by the issuance of shares to others who do choose to exercise their rights. A reduction in the exercise price of our warrants due to % participation in the rights offering by our warrant holders may result in additional dilution to the extent any warrants are exercised following a reduction of the exercise price. See Risk Factors .

Limitation on the Exercise of Rights

The number of rights that you may exercise in the rights offering may be limited by the number of shares of our common stock you held on the record date and by the extent to which other rights holders exercise their basic subscription rights and over-subscription privilege, which we cannot determine prior to completion of the rights offering. We may also choose to not issue shares pursuant to the rights offering to the extent that a stockholder would beneficially own, together with any other person with whom such stockholder s shares may be aggregated under applicable law, more than 19.9% of our outstanding shares of common stock.

Method of Exercising Rights by Stockholders

The exercise of rights is irrevocable and may not be cancelled or modified, even if we extend the expiration of the rights offering in our sole discretion. You may exercise your rights as follows:

Subscription by Registered Holders

You may exercise your rights by properly completing and executing the subscription rights certificate together with any required signature guarantees and forwarding it, together with your full subscription payment for your subscription rights and any over-subscription privilege, to the rights agent at the address set forth below under Agent, prior to the expiration of the rights offering described below.

Subscription by DTC Participants

We expect that the exercise of your rights may be made through the facilities of DTC. If your rights are held of record through DTC, you may exercise your rights by instructing DTC, or having your broker, dealer, custodian bank or other nominee instruct DTC, to transfer your rights from your account to the account of the rights agent, together with certification as to the aggregate number of rights you are exercising and the number of shares of our common stock you are subscribing for under your subscription right.

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, custodian bank or other nominee, or if you hold our common stock certificates and would prefer to have an institution

conduct the transaction relating to the rights on your behalf, you should instruct your broker, dealer, custodian bank or other nominee or institution to exercise your rights and deliver all subscription documents and payment on your behalf prior to the expiration of the rights offering described below. Your rights will not be

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considered exercised unless the rights agent receives from you, your broker, dealer, custodian bank, nominee or institution, as the case may be, all of the required subscription documents and your full subscription payment for your subscription rights and any over-subscription privilege prior to this expiration time.

Only whole rights are exercisable. Fractional rights remaining after aggregating all of the rights distributed to you will be rounded down to the nearest whole number. You will not receive any payment with respect to fractional shares that are rounded down. Any excess subscription payments received by the rights agent will be returned, without interest, as soon as practicable.

Method of Exercising Rights by Warrant Holders

Holders of certain warrants have the contractual right to participate in the rights offering. To the extent that you have such rights and elect to exercise them, the exercise of rights is irrevocable and may not be cancelled or modified, even if we extend the expiration of the rights offering in our sole discretion. You may exercise your rights by properly completing and executing the subscription rights certificate together with any required signature guarantees and forwarding it, together with your full subscription payment, to the rights agent at the address set forth below under Rights Agent, prior to the expiration of the rights offering described below.

Payment Method

Payments must be made in full in U.S. currency by:

check or bank draft payable to Broadridge Corporate Issuer Solutions, Inc. upon a U.S. bank or

wire transfer of immediately available funds to accounts maintained by the rights agent. Payment received after the expiration of the rights offering will not be honored, and the rights agent will return your payment to you, without interest, as soon as practicable. The rights agent will be deemed to receive payment upon:

receipt by the rights agent of any certified check bank draft drawn upon a U.S. bank; or

receipt of collected funds in the rights agent s account.

If you elect to exercise your rights, we urge you to consider using a certified or cashier s check or wire transfer of funds to ensure that the rights agent receives your funds prior to the expiration of the rights offering. If you send a certified check bank draft drawn upon a U.S. bank or wire or transfer funds directly to the rights agent s account, payment will be deemed to have been received by the rights agent immediately upon receipt of such instruments and wire or transfer.

You should read the instruction letter accompanying the subscription rights certificate carefully and strictly follow it. **DO NOT SEND RIGHTS CERTIFICATES OR PAYMENTS DIRECTLY TO US.** Except as described below under Guaranteed Delivery Procedures, we will not consider your subscription received until the rights agent has received delivery of a properly completed and duly executed subscription rights certificate and payment of the full subscription amount. The risk of delivery of all documents and payments is borne by you or your nominee, not by the

rights agent or us.

The method of delivery of subscription rights certificates and payment of the subscription amount to the rights agent will be at the risk of the holders of rights. If sent by mail, we recommend that you send those certificates and payments by overnight courier or by registered mail, properly insured, with return receipt requested, and that a sufficient number of days be allowed to ensure delivery to the rights agent and clearance of payment prior to the expiration of the rights offering.

Unless a subscription rights certificate provides that the shares of our common stock are to be delivered to the record holder of such rights or such certificate is submitted for the account of a bank or a broker, signatures

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on such subscription rights certificate must be guaranteed by an eligible guarantor institution, as such term is defined in Rule 17Ad-15 of the Exchange Act, subject to any standards and procedures adopted by the rights agent.

Missing or Incomplete Subscription Information

If you do not indicate the number of rights being exercised, or the rights agent does not receive the full subscription payment for the number of rights that you indicate are being exercised, then you will be deemed to have exercised the maximum number of rights that may be exercised with the aggregate subscription payment you delivered to the rights agent. If we do not apply your full subscription payment to your purchase of shares of our common stock, any excess subscription payment received by the rights agent will be returned, without interest, as soon as practicable.

Expiration Date and Extensions

The subscription period, during which you may exercise your rights, is currently set to expire at 5:00 p.m., Eastern Time, on , 2016. If you do not exercise your rights prior to that time, your rights will expire and will no longer be exercisable. We will not be required to issue shares of our common stock to you if the rights agent receives your subscription rights certificate or your subscription payment after that time, regardless of when the subscription rights certificate and subscription payment were sent, unless you send the documents in compliance with the guaranteed delivery procedures described below. We may extend the period for exercising your rights in our sole discretion. If the expiration date of the rights offering is so extended, we will give oral or written notice to the rights agent on or before the scheduled expiration date and we will issue a press release announcing such extension no later than 9:00 a.m., Eastern Time, on the next business day after the most recently announced expiration of the rights offering. We will extend the duration of the rights offering as required by applicable law or regulation and may choose to extend it. We do not currently intend to extend the expiration of the rights offering. To the extent that any completed subscription exercise documentation is received by the rights agent after the expiration of the rights offering, we may, in our sole discretion, choose to accept such subscription, but we shall be under no obligation to do so.

Subscription Price

The subscription price is not necessarily related to our book value, results of operations, cash flows, financial condition or the future market value of our common stock. The market price of our common stock may decline during or after the rights offering, and you may not be able to sell the underlying shares of our common stock purchased in the rights offering at a price equal to or greater than the subscription price. We do not intend to change the subscription price in response to changes in the trading price of our common stock prior to the closing of the rights offering. You should obtain a current quote for our common stock before deciding whether to exercise your rights and make your own assessment of our business and financial condition, our prospects for the future and the terms of the rights offering.

Amendment, Withdrawal and Termination

We may decide to terminate the rights offering at any time and for any reason before the closing of the rights offering. If we terminate the rights offering, any money received from subscribing stockholders or warrant holders, as the case may be, will be returned promptly, without interest or penalty. In addition, we may extend the period for exercising your rights and adjust the subscription price in our sole discretion. We do not currently intend to extend the expiration of the rights offering.

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Rights Agent

The rights agent for this offering is Broadridge Corporate Issuer Solutions, Inc. The address to which subscription rights certificates and subscription payments other than wire transfers should be mailed or delivered is:

By hand or overnight courier:

Broadridge Corporate Issuer Solutions, Inc.

Attn: BCIS IWS,

51 Mercedes Way

Edgewood, NY 11717.

By mail:*

Broadridge Corporate Issuer Solutions, Inc.

Attn: BCIS Re-Organization Dept., P.O. Box 1317

Brentwood, NY 11717.

If you deliver subscription rights certificates in a manner different than that described in this prospectus, then we may not honor the exercise of your 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 rights agent at the above contact information.

Fees and Expenses

We will pay all fees charged by the rights agent. You are responsible for paying any other commissions, fees, taxes or other expenses incurred in connection with the exercise of the rights.

Notice to Nominees

If you are a broker, dealer, custodian 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 rights. You should obtain instructions from the beneficial owner, as set forth in the instructions we have provided to you for your distribution to beneficial owners. If the beneficial owner so instructs, you should complete the appropriate subscription rights certificate and submit it to the rights agent with the proper subscription payment. If you hold shares of our common stock for the account(s) of more than one beneficial owner, you may exercise the number of rights to which all beneficial owners in the aggregate otherwise would have been entitled had they been direct holders of our

^{*} If your chosen delivery method is USPS Priority Mail or USPS Registered Mail, you must utilize the overnight courier address.

common stock on the record date, provided that you, as a nominee record holder, make a proper showing to the rights 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 the rights agent to request a copy.

Beneficial Owners

If you are a beneficial owner of shares of our common stock or will receive your rights through a broker, dealer, custodian bank or other nominee, we will ask your broker, dealer, custodian bank or other nominee to notify you of the rights offering. If you wish to exercise your rights, you will need to have your broker, dealer,

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custodian bank or other nominee act for you. If you hold certificates of our common stock directly and would prefer to have your broker, dealer, custodian bank or other nominee act for you, you should contact your nominee and request it to effect the transactions for you. To indicate your decision with respect to your rights, you should complete and return to your broker, dealer, custodian bank or other nominee the form entitled Beneficial Owners Election Form (or such other appropriate documents as are provided by your nominee related to your rights). You should receive this form from your broker, dealer, custodian bank or other nominee with the other rights offering materials. If you wish to obtain a separate subscription rights certificate, you should contact the nominee as soon as possible and request that a separate subscription rights certificate be issued to you. You should contact your broker, dealer, custodian bank or other nominee if you do not receive this form, but you believe you are entitled to participate in the rights offering. We are not responsible if you do not receive the form from your broker, dealer, custodian bank or nominee or if you receive it without sufficient time to respond.

Guaranteed Delivery Procedures

If you wish to exercise rights, but you do not have sufficient time to deliver the subscription rights certificate evidencing your rights to the rights agent prior to the expiration of the rights offering, you may exercise your rights by the following guaranteed delivery procedures:

deliver to the rights agent prior to the expiration of the rights offering the subscription payment for each share you elected to purchase pursuant to the exercise of rights in the manner set forth above under Payment Method;

deliver to the rights agent prior to the expiration of the rights offering the form entitled Notice of Guaranteed Delivery; and

deliver the properly completed subscription rights certificate evidencing your rights being exercised and the related nominee holder certification, if applicable, with any required signatures guaranteed, to the rights agent within three (3) business days following the date you submit your Notice of Guaranteed Delivery. Your Notice of Guaranteed Delivery must be delivered in substantially the same form provided with the Form of Instructions for Use of Subscription Rights Certificates, which will be distributed to you with your subscription rights certificate. Your Notice of Guaranteed Delivery must include a signature guarantee from an eligible institution, acceptable to the rights agent. A form of that guarantee is included with the Notice of Guaranteed Delivery.

In your Notice of Guaranteed Delivery, you must provide:

your name;

the number of rights represented by your subscription rights certificate, and the number of shares of our common stock for which you are subscribing under your subscription right; and

your guarantee that you will deliver to the rights agent a subscription rights certificate evidencing the rights you are exercising within three (3) business days following the date the rights agent receives your Notice of Guaranteed Delivery.

You may deliver your Notice of Guaranteed Delivery to the rights agent in the same manner as your subscription rights certificate at the address set forth above under Rights Agent.

The rights agent will send you additional copies of the form of Notice of Guaranteed Delivery if you need them. You should call the rights agent at (855) 793-5068 to request additional copies of the form of Notice of Guaranteed Delivery.

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Transferability of Rights; Listing

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. The shares of common stock issued in the rights offering will be listed on NASDAQ under the symbol STEM.

Validity of Subscriptions

We will resolve all questions regarding the validity and form of the exercise of your rights, including time of receipt and eligibility to participate in the rights offering. In resolving all such questions, we will review the relevant facts, consult with our legal advisors and we may request input from the relevant parties. Our determination will be final and binding. Once made, subscriptions and directions are irrevocable, even if you later learn information that you consider to be unfavorable to the exercise of your rights and even if we extend the rights offering, and we will not accept any alternative, conditional or contingent subscriptions or directions. We reserve the absolute right to reject any subscriptions or directions not properly submitted or the acceptance of which would be unlawful. You must resolve any irregularities in connection with your subscriptions before the subscription period expires, unless waived by us in our sole discretion. Neither we nor the rights agent shall be 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 a properly completed and duly executed subscription rights certificate and any other required documents and the full subscription payment have been received by the rights agent. Our interpretations of the terms and conditions of the rights offering will be final and binding.

Escrow Arrangements; Return of Funds

The rights agent will hold funds received in payment for shares of our common stock in a segregated account pending completion of the rights offering. The rights agent will hold this money in escrow until the rights offering is completed or is withdrawn and terminated. If the rights offering is terminated for any reason, all subscription payments received by the rights agent will be returned, without interest, as soon as practicable.

Stockholder Rights

You will have no rights as a holder of the shares of our common stock you purchase in the rights offering, if any, until the closing of the rights offering has taken place. You will have no right to revoke your subscriptions after you deliver your completed subscription rights certificate, the full subscription payment and any other required documents to the rights agent.

No Revocation or Change

Once you submit the form of subscription rights certificate to exercise any rights, you are not allowed to revoke or change the exercise or request a refund of monies paid. All exercises of rights are irrevocable, even if you later learn information that you consider to be unfavorable to the exercise of your rights and even if we extend the rights offering or adjust the subscription price. You should not exercise your rights unless you are certain that you wish to purchase additional shares of our common stock at the subscription price.

Foreign Rights Holders

We will not mail this prospectus or subscription rights certificates to rights holders with addresses that are outside the United States or that have an army post office or foreign post office address. The rights agent will hold these

subscription rights certificates for their account. To exercise rights, our foreign stockholders and warrant holders must notify the rights agent prior to 11:00 a.m., Eastern Time, at least three (3) business days prior to the expiration of the rights offering and demonstrate to the satisfaction of the rights agent that the exercise of such rights does not violate the laws of the jurisdiction of such stockholder.

Regulatory Limitation

We will not be required to issue to you shares of our common stock pursuant to the rights offering if, in our opinion, you are required to obtain prior clearance or approval from any state or federal regulatory authorities to own or control such shares and if, at the time the rights offering expires, you have not obtained such clearance or approval.

U.S. Federal Income Tax Treatment of Rights Distribution

We believe and intend to take the position that the distribution and receipt and the exercise of the subscription rights by any U.S. holder of common stock or U.S. holder of our warrants will not be taxable to such holder for U.S. federal income tax purposes for the reasons described below in Material U.S. Federal Income Tax Consequences.

No Board Recommendation to Rights Holders

Our Board of Directors is making no recommendation regarding your exercise of the rights. You are urged to make your decision based on your own assessment of our business and the rights offering. Please see Risk Factors for a discussion of some of the risks involved in investing in our common stock.

Distribution Arrangements

[are/is] the dealer-manager[s] for the rights offering. The dealer-manager[s] 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[s] are not underwriting or placing any of the subscription rights 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). We have agreed to pay the dealer-manager[s] certain fees in connection with this offering. See Plan of Distribution.

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PLAN OF DISTRIBUTION

We are distributing the subscription rights to individuals who owned shares of our common stock and our warrants as , 2016, 5:00 p.m., Eastern Time. If you wish to exercise your subscription rights and purchase shares of our common stock, you should complete the subscription rights certificate and return it with payment for the shares to the rights agent, Broadridge Corporate Issuer Solutions, Inc., at the address set forth under The Rights Offering Method of Exercising Rights by Stockholders or The Rights Offering Method of Exercising Rights by Warrant Holders. If you have any questions, you should contact the rights agent, Broadridge Corporate Issuer Solutions, Inc., by calling (855) 793-5068.

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

[are/is] the dealer-manager[s] of this rights offering. In such capacity, such dealer-manager[s] 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[s] [are/is] not underwriting or placing any of the subscription rights being issued in this 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). In connection with this rights offering, we have agreed to pay fees to the dealer-manager[s] as follows:

We have agreed to indemnify the dealer-manager[s] and their respective affiliates against certain liabilities arising under the Securities Act of 1933, as amended (the Securities Act). The dealer-managers 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[s] and their 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.

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MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES

This following discussion addresses certain material U.S. federal income tax considerations relating to (i) the receipt and exercise (or expiration) of the subscription rights as contemplated throughout this rights offering, and (ii), if applicable in connection with the exercise of the basic subscription right or, if applicable, the over-subscription privilege, the acquisition, ownership and sale of shares of our stock. This discussion addresses only the treatment to a holder of our common stock or our warrants, that is a U.S. holder (defined below), and who receives subscription rights pursuant to this offering, or holds shares of our stock issued upon the exercise of the basic right privilege or, if applicable, the over-subscription privilege, in each instance as capital assets within the meaning of Section 1221 of the Code. This discussion does not provide a complete or comprehensive analysis of all potential tax considerations. The information provide herein is based on existing United States federal income tax authorities, including but not limited to, the Code, the Treasury Regulations promulgated thereunder, legislative history, judicial authority and published rulings, any of which may subsequently change, possibly retroactively, or be interpreted differently by the IRS, so as to result in U.S. federal income tax consequences different from those discussed throughout this offering. This discussion neither binds nor precludes the IRS from adopting a position contrary to, or otherwise challenging, the positions addressed in this prospectus, and we cannot assure you that such a contrary position could not be asserted successfully by the IRS or adopted by a court if the position or matter was litigated. We have not sought, and will not seek, either (i) a ruling from the IRS or (ii) an opinion from legal counsel, in either instance regarding the tax considerations discussed herein.

This discussion does not address all of the tax consequences that may be relevant to U.S. holders in light of their particular circumstances or to holders subject to special rules under the U.S. federal income tax laws, including, without limitation, financial institutions, banks, regulated investment companies, real estate investment trusts, dealers in securities or foreign currency, traders in securities that elect to use a mark-to-market method of accounting for securities holdings, tax-exempt organizations or entities, tax-deferred or other retirement accounts, insurance companies, persons liable for alternative minimum tax, holders who hold stock or warrants as part of a hedge, straddle, conversion, constructive sale or other integrated security transaction, holders whose functional currency is not the U.S. dollar, certain former citizens or residents of the U.S., and holders who received our stock on which the subscription rights are distributed in satisfaction of our indebtedness or in a compensatory transaction. This discussion is not a complete analysis of all potential U.S. federal income tax consequences and does not address any tax consequences arising under any state, local or foreign tax laws or any other U.S. federal tax laws, including the U.S. federal estate or gift tax laws.

As used throughout this discussion, a U.S. holder means a beneficial owner of subscription rights, or stock acquired pursuant to the exercise of the basic subscription right or, if applicable, the over-subscription privilege, that is:

An individual who is a citizen or resident of the United States, including an alien individual who either is a lawful permanent resident of the United States;

A corporation (or entity treated as a corporation for U.S. federal income tax purposes) created or organized, or treated as created or organized, in or under the laws of the United States, any state thereof or the District of Columbia:

An estate whose income is subject to U.S. federal income tax regardless of its source; or

A trust (i) if a U.S. court can exercise primary supervision over the trust s administration and one or more U.S. persons are authorized to control all substantial decisions of the trust, or (ii) that has a valid election in effect under applicable Treasury Regulations to be treated as a U.S. person.

In addition, as used throughout this discussion, the phrase Securities, means both (i) shares of our common stock, and (ii) rights or warrants to acquire shares of our common stock; and the term Stockholder, means a U.S. holder who is either (i) a holder of shares of our common stock, or (ii) a holder of rights or warrants to acquire shares of our common stock. As such, this discussion addresses the receipt of the subscription rights contemplated in this offering by current holders of shares of our common stock and current holders of our warrants.

If a partnership (including any entity treated as a partnership for U.S. federal income tax purposes) receives the subscription rights or holds the stock received upon exercise of the basic subscription right or, if applicable, the over-subscription privilege, the tax treatment of a partner in such partnership generally will depend upon the status of the partner and the activities of the partnership. Such a partner and the partnership are urged to consult their own tax advisors as to the U.S. federal income tax consequences of receiving the subscription rights, exercising (or allowing to expire) the basic subscription right or, if applicable, the over-subscription privilege, and acquiring, holding or disposing of our shares of stock.

EACH HOLDER OF SHARES OF OUR COMMON STOCK OR OUR WARRANTS IS STRONGLY URGED TO CONSULT SUCH HOLDER S OWN TAX ADVISORS REGARDING THE SPECIFIC FEDERAL, STATE, LOCAL AND NON-U.S. INCOME AND OTHER TAX CONSIDERATIONS OF THE RECEIPT AND EXERCISE OF THE SUBSCRIPTION RIGHTS AND THE RECEIPT, OWNERSHIP AND DISPOSITION OF OUR STOCK.

U.S. Federal Income Tax Considerations Applicable to the Receipt of Subscription Rights Assuming the Rights

Although the authorities governing the transactions such as this rights offering are complex and unclear in certain respects, we believe and intend to take the position that the distribution of subscription rights to a Stockholder with respect to such Stockholder s Securities should generally be treated, for U.S. federal income tax purposes, as a non-taxable distribution.

However, the general rule regarding nonrecognition is subject to certain exceptions, including if receipt by a Stockholder of subscription rights is part of a disproportionate distribution. A disproportionate distribution is a distribution or a series of distributions, including deemed distributions, that have the effect of the receipt of cash or other property by some Stockholders and an increase in the proportionate interest of other Stockholders in our assets or earnings and profits. During the last 36 months, we have not made any distributions of cash or other property with respect to our stock, nor do we have any current intention of making any distributions with respect to our stock. Currently, our common stock is our sole outstanding class of stock, and we have no current intention of issuing another class of stock or convertible debt. However, the fact that we have outstanding options, warrants and similar equity-based awards could cause, under certain circumstances that cannot currently be predicted, the receipt of subscription rights pursuant to this offering to be part of a disproportionate distribution. The Company intends to take the position that the outstanding options, warrants and similar equity-based awards do not cause the subscription rights issued pursuant to this rights offering to be part of a disproportionate distribution, but there can be no assurances in this regard.

Our position regarding the tax-free treatment of the receipt of subscription rights is not binding on the IRS or the courts. If this position is finally determined to be incorrect, whether on the basis that the issuance of the subscriptions 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 of the holder s basis in shares of our common stock and thereafter 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 regarding the tax-treatment of the receipt of subscription rights is incorrect, the treatment of the receipt of the subscription rights to holders of our warrants is not clear, and it may differ from the treatment of the receipt of the subscription rights to the holders of our common stock. Holders of our warrants may be treated in a manner similar to holders of our common stock, but it is possible that they may be subject to different and adverse U.S. federal income tax consequences.

The Following discussion is based upon the treatment of the receipt of the subscription rights in this offering as a non-taxable distribution with respect to a Stockholder s Securities for U.S. federal income tax purposes.

The remainder of this section entitled U.S. Federal Income Tax Considerations Applicable to the Receipt of Subscription Rights assumes that the receipt by a Stockholder of subscription rights with respect to such Stockholder s Securities pursuant to this rights offering is non-taxable for U.S. federal income tax purposes.

Tax Basis in the Subscription Rights

If the fair market value of the subscription rights received by a Stockholder who holds our common stock is less than 15% of the fair market value of such Stockholder s common stock as of the date the subscription rights are distributed, then such holder s subscription rights will be allocated a zero tax basis for U.S. federal income tax purposes. However, in such a case, a Stockholder who holds our common stock may affirmatively elect to allocate a portion of such holder s tax basis in such holder s existing shares of our common stock between (i) such holder s shares of our common stock and (ii) such holder s subscription rights received pursuant to this offering, in proportion to the relative fair market values of such existing shares of common stock and subscription rights determined as of the date of the receipt of the subscription rights. If a Stockholder who holds our common stock chooses to make such an election, then such holder must make this election on a statement included with such holder s tax return for the taxable year in which such holder receives subscription rights pursuant to this offering. Such an election, if made, is irrevocable.

If the fair market value of the subscription rights received by a Stockholder who holds our common stock is 15% or more of the fair market value of such holder s common stock as of the date the subscription rights are distributed, then such holder must allocate such holder s tax basis in such holder s existing common stock between (i) such holder s shares of our common stock, and (ii) such holder s subscription rights received pursuant to this offering, in proportion to the relative fair market values of such existing shares of common stock and subscription rights determined as of the date of the distribution of the subscription rights.

Similar rules may apply with respect to subscription rights received by a Stockholder who holds our warrants, but the application of these rules to holders of our warrants, is complex and subject to uncertainty. Each U.S. holder of our warrants is strongly urged to consult such holder s own tax advisor regarding the specific federal, state, local and non-U.S. income and other tax considerations of the receipt and exercise of subscription rights, particularly with respect to such holder s tax basis in the subscription rights.

The fair market value of the subscription rights on the date the subscription rights are received is uncertain, and we have not obtained, and do not intend to obtain, an appraisal of the fair market value of the subscription rights as of that date. Fair market value is defined generally as the price at which property would hypothetically change hands between a willing buyer and a willing seller, where neither is under any compulsion to buy or sell. Fair market value is a factual determination. In determining the fair market value of the subscription rights, you should consider all relevant facts and circumstances, including but not limited to any difference between the subscription price of the subscription rights and the trading price of our common stock on the date that the subscription rights are distributed or received, the length of the time period during which the subscription rights may be exercised, the fact that the subscription rights are non-transferable, and any other relevant facts and circumstances.

Exercise of the Subscription Rights

A Stockholder generally will not recognize any gain or loss upon the exercise of subscription rights received pursuant to this rights offering. A Stockholder s tax basis of shares of our common stock acquired through the exercise of such subscription rights will equal the sum of (i) the subscription price paid for the shares, *plus* (ii) the tax basis, if any, in the subscription rights immediately prior to such exercise. The holding period for shares of our common stock acquired through the exercise of such subscription rights will begin on the date the subscription rights are exercised.

Expiration of the Subscription Rights

A Stockholder who allows subscription rights received pursuant to this rights offering to expire generally will not recognize any gain or loss upon such expiration. If, in connection with the receipt of subscription rights pursuant to this offering, a Stockholder who holds our common stock, by election or otherwise, allocated a portion of the tax basis in such holder s then existing common stock to such holder s subscription rights, then upon the expiration of such subscription rights, the portion of the tax basis previously allocated to the subscription rights will be re-allocated, or re-attributed, to such holder s common stock, and the tax basis of such common stock will be restored to what it was immediately before the receipt of the subscription rights in this offering.

Similar rules may apply with respect to subscription rights received by a Stockholder who holds our warrants, but the application of these rules to U.S. holders of our warrants, is complex and subject to uncertainty. Each U.S. holder of our warrants is strongly urged to consult such holder s own tax advisor regarding the specific federal, state, local and non-U.S. income and other tax considerations of the receipt and exercise of subscription rights, particularly with respect to such holder s tax basis in the subscription rights.

Ownership and Disposition of Shares of Our Common Stock

Distributions and Dividends

Distributions, if any, of cash or property on shares of our common stock acquired through the exercise of subscription rights will be taxable to a U.S. holder as a dividend to the extent such distribution is paid from our current and accumulated earnings and profits, as determined under U.S. federal income tax principles for the year in which the distribution is made. Dividends received by corporate U.S. holders are taxable at ordinary corporate income tax rates, subject to any applicable dividends-received deduction. Subject to the discussion below regarding the additional Medicare tax (see, *Net Investment Income Tax*), qualified dividends received by non-corporate U.S. holders are taxable at a maximum rate of 20%, provided the holder meets applicable holding period requirements. Any distributions in excess of the Company s current and accumulated earnings and profits will be treated as a tax-free return of a U.S. holder s basis in our common stock, and any further distributions in excess of a U.S. holder s basis in our common stock will be treated as gain from the sale or exchange of such common stock.

Sale or Other Taxable Disposition

Upon the sale or other taxable disposition of shares of our common stock (including a redemption, but only if the redemption would be treated as a sale or exchange rather than a distribution U.S. federal income tax purposes), a U.S. holder will generally recognize capital gain or loss equal to the difference between (i) the amount realized by such U.S. holder in connection with such sale or other taxable disposition, and (ii) such U.S. holder s adjusted tax basis in such stock. Such capital gain or loss will generally be long-term capital gain or loss if the U.S. holder s holding period in such stock is more than twelve months. U.S. holders who are individuals are eligible for preferential rates of taxation in respect of their long-term capital gains. For example, long-term capital gains recognized by individuals are

taxable at a maximum rate of twenty percent (20%), in addition to the additional Medicare tax (*see*, *Net Investment Income Tax*), if applicable. A U.S. holder s ability to use a capital loss may be subject to limitations.

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Net Investment Income Tax

In addition to the United States federal income tax, discussed above, certain U.S. holders are subject to an additional 3.8% Medicare tax (the net investment income tax) on their net investment income to the extent that their net investment income, when added to their other modified adjusted gross income, exceeds certain thresholds (*e.g.*, \$250,000 for married individuals filing jointly). For these purposes, net investment income generally equals a U.S. Holder s gross investment income (*e.g.*, interest income, dividends and gain from the sale or other disposition of stock) reduced by deductions that are allocable to such income. The net investment income tax is determined in a manner which is different than the manner in which the U.S. federal income tax is determined. U.S. holders are urged to consult their own tax advisors regarding the implications of the net investment income tax.

Information Reporting and Backup Withholding

U.S. backup withholding (currently at a rate of 28%) is imposed upon certain distributions (or deemed distributions) to persons who fail (or are unable) to furnish the information required pursuant to U.S. information reporting requirements. Distributions (or deemed distributions or similar transactions) to a Stockholder will generally be exempt from backup withholding, provided the Stockholder meets applicable certification requirements, including (i) providing the Company with such holder s U.S. taxpayer identification number (*e.g.*, an individual s social security number or individual taxpayer identification number, or an entity s employer identification number, each a TIN) or (ii) otherwise establishing an exemption (*e.g.*, an exemption from backup withholding as a corporate payee), in each instance on a properly filled out IRS Form W-9, certifying under penalties of perjury that, among others, such TIN or exemption is correct, together with such other certifications as may be required by law.

Backup withholding does not represent an additional tax. Any amounts withheld from a payment to a U.S. holder under the backup withholding rules will generally be allowed as a credit against such U.S. holder s U.S. federal income tax liability, and may entitle such U.S. holder to a refund, provided the required information and returns are timely furnished by such U.S. holder to the IRS.

AS INDICATED ABOVE, THE FOREGOING DISCUSSION IS FOR GENERAL INFORMATION PURPOSES ONLY AND SHOULD NOT BE VIEWED AS COMPLETE OR COMPREHENSIVE TAX ADVICE. BOTH (I) HOLDERS RECEIVING A DISTRIBUTION OF STOCK RIGHTS CONTEMPLATED IN THIS OFFERING, AND (II) HOLDERS CONSIDERING THE PURCHASE OF OUR COMMON STOCK BY EXERCISING SUCH STOCK RIGHTS, ARE URGED TO CONSULT THEIR OWN TAX ADVISORS REGARDING THE APPLICATION OF THE U.S. FEDERAL TAX LAWS TO THEIR PARTICULAR SITUATIONS AND THE APPLICABILITY AND EFFECT OF STATE, LOCAL AND FOREIGN LAWS TO THEM.

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LEGAL MATTERS

The validity of the securities offered hereby has been passed upon for us by Ropes & Gray LLP, Boston, Massachusetts. The dealer-manager[s] [are/is] being represented by

EXPERTS

The audited financial statements incorporated by reference in this prospectus and elsewhere in the registration statement have been incorporated by reference in reliance upon the reports of Grant Thornton LLP, independent registered public accountants, upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC s website at http://www.sec.gov. The SEC s website contains reports, proxy and information statements and other information regarding issuers, such as us, that file electronically with the SEC. You may also read and copy any document we file with the SEC at the SEC s Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. You may also obtain copies of these documents at prescribed rates by writing to the SEC. Please call the SEC at 1-800-SEC-0330 for further information on the operation of its Public Reference Room.

We have filed with the SEC a registration statement under the Securities Act that registers the distribution of these securities. The registration statement, including the attached exhibits and schedules, contains additional relevant information about us and the securities. This prospectus does not contain all of the information set forth in the registration statement. You can get a copy of the registration statement, at prescribed rates, from the SEC at the address listed above. The registration statement and the documents referred to below under Incorporation of Certain Documents by Reference are also available on our Internet website, http://www.stemcellsinc.com, under Investors SEC Filings. We have not incorporated by reference into this prospectus the information on our website, and you should not consider it to be a part of this prospectus.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC permits us to incorporate by reference the information contained in documents we file 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 fiscal year ended December 31, 2015;

our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2016;

our Current Reports on Form 8-K filed January 12, 2016, March 11, 2016, May 3, 2016, May 10, 2016 and on Form 8-K/A filed on January 15, 2016 (except, in any such case, the portions furnished and not filed

pursuant to Item 2.02, Item 7.01 or otherwise); and

our definitive proxy statement on Schedule 14A filed April 8, 2016.

For purposes of the registration statement of which this prospectus is a part, any statement contained in a document incorporated or deemed to be incorporated herein by reference shall be deemed to be modified or superseded to the extent that a statement contained herein modifies or supersedes such statement in such document. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of the registration statement of which this prospectus is a part.

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We will provide without charge to each person 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. You may obtain copies of these filings, at no cost, through the Investor Relations section of our website (www.stemcellsinc.com), and you may request copies of these filings, at no cost, by writing or telephoning us at:

StemCells, Inc.

7707 Gateway Blvd., Suite 140

Newark, CA 94560

Attention: Investor Relations

Phone: (510) 456-4000

e-mail: irpr@stemcellsinc.com

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PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuances and Distribution.

The following table sets forth the various expenses in connection with the issuance and distribution of the securities being registered being registered, all of which are being borne by us. All amounts are estimates except the SEC registration fee.

SEC filing fee	\$3,0)21
Financial advisory fees and expenses	\$	*
Legal fees and expenses	\$	*
Accounting fees and expenses	\$	*
Rights Agent fees and expenses	\$	*
Printing expenses	\$	*
Other	\$	*
Total expenses	\$	*

Item 15. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law (DGCL) permits, in general, a Delaware corporation, to indemnify any person who was or is a party to any proceeding (other than an action by, or in the right of, the corporation) by reason of the face that or she is or was a director, or officer, of the corporations, or served another business enterprise in any capacity at the request of the corporation, against liability incurred in connection with such proceeding, including the expenses (including attorney s fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him in connection with such proceeding if such person acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interests of the corporation and, in criminal actions or proceedings, additionally had no reasonable cause to believe that his or her conduct was unlawful. A Delaware corporation s power to indemnify applies to actions brought by or in the right of the corporation by or in the right of the corporation as well, but only to the extent of expenses (including attorneys fees) actually and reasonably incurred by the person in connection with the defense or settlement of the action or suit, provided that no indemnification shall be provided in such actions in the event of any adjudication of negligence or misconduct in the performance of such person s duties to the corporation, unless a court believes that in light of all the circumstances indemnification should apply. Section 145 of the DGCL also permits, in general, a Delaware corporation to purchase and maintain insurance on behalf of any person who is or was a director or officer of the corporation, or served another entity in any capacity at the request of the corporation, against liability incurred by such person in such capacity, whether or not the corporation would have the power to indemnify such person against such liability.

^{*} To be completed by amendment

Section 102(b)(7) of the DGCL permits a corporation to include in its certificate of incorporation a provision eliminating or limiting the personal liability of a director to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, provided that such provision shall not eliminate or limit the liability of a director (i) for any breach of the director s duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the DGCL or (iv) for any transaction from which the director derived an improper personal benefit.

The Company s restated certificate of incorporation provides that the Company s Directors shall not be liable to the Company or its stockholders for monetary damages for breach of fiduciary duty as a director except to the extent that exculpation from liabilities is not permitted under the DGCL as in effect at the time such liability is determined. The Company s restated certificate of incorporation further provides that the Company shall indemnify its directors and officers to the fullest extent permitted by the DGCL.

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The Company has a liability insurance policy in effect which covers certain claims against any officer or director of the Company by reason of certain breaches of duty, neglect, errors or omissions committed by such person in his or her capacity as an officer or director.

Item 16. Exhibits and Financial Statement Schedules.

The exhibits listed in the accompanying Exhibit Index are filed or incorporated by reference as part of this Registration Statement.

Item 17. Undertakings.

- (a) 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;
 - (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 SEC pursuant to Rule 424(b) (§230.424(b) of this chapter) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the Calculation of Registration Fee table in the effective registration statement.
 - (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, 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 to any purchaser:
 - (i) 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
 - (ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the

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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 effective date, 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 effective date.

- (b) The undersigned registrant hereby undertakes to deliver or cause to be delivered with the prospectus, to each person to whom the prospectus is sent or given, the latest annual report to security holders that is incorporated by reference in the prospectus and furnished pursuant to and meeting the requirements of Rule 14a-3 or Rule 14c-3 under the Exchange Act; and, where interim financial information required to be presented by Article 3 of Regulation S-X are not set forth in the prospectus, to deliver, or cause to be delivered to each person to whom the prospectus is sent or given, the latest quarterly report that is specifically incorporated by reference in the prospectus to provide such interim financial information.
- (c) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, 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 Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the 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 Act and will be governed by the final adjudication of such issue.

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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 Newark, State of California, on May 23, 2016.

STEMCELLS, INC.

By: /s/ IAN J. MASSEY
Ian J. Massey
President and Chief Executive Officer

POWER OF ATTORNEY

Each person whose signature appears below hereby constitutes and appoints Gregory Schiffman and George Koshy, and each of them singly, his or her true and lawful attorneys-in-fact and agent with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement on Form S-1 and any related Rule 462(b) registration statement or amendment thereto 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 full power and authority to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their substitutes, 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 indicated and on the dates indicated.

Signature	Capacity	Date
/s/ IAN J. MASSEY, PH.D.	President and Chief Executive Officer and	May 23, 2016
Ian J. Massey, Ph.D.	Director (principal executive officer)	
/s/ GREGORY SCHIFFMAN	Chief Financial Officer	May 23, 2016
Gregory Schiffman	(principal financial officer)	
/s/ GEORGE KOSHY	Chief Accounting Officer	May 23, 2016
George Koshy	(principal accounting officer)	
/s/ ERIC BJERKHOLT	Director	May 23, 2016

Eric Bjerkholt

/s/ R. SCOTT GREER	Director	May 23, 2016
R. Scott Greer		
/s/ RICARDO B. LEVY, PH.D.	Director	May 23, 2016
Ricardo B. Levy, Ph.D.		
/s/ JOHN J. SCHWARTZ, PH.D.	Director, Chairman of the Board	May 23, 2016
John J. Schwartz, Ph.D.		

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Signature	Capacity	Date
/s/ ALAN TROUNSON, PH.D.	Director	May 23, 2016
Alan Trounson, Ph.D.		
/s/ IRVING L. WEISSMAN, M.D.	Director	May 23, 2016
Irving L. Weissman, M.D.		

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EXHIBIT INDEX

Number	Description
1.1	Form of Dealer-Manager Agreement by and between StemCells, Inc. and
3.1a	Restated Certificate of Incorporation of the Registrant Restated Articles of Incorporation of the Registrant, incorporated by reference to Exhibit 3.1 of the Registrant s Annual Report on Form 10-K for the fiscal year ended December 31, 2006 and filed on March 15, 2007.
3.1b	Certificate of Amendment to Amended and Restated Certificate of Incorporation, incorporated by reference to Exhibit 3.1 of the Registrant s Current Report on Form 8-K filed on May 3, 2016.
3.2	Amended and Restated Bylaws of the Registrant, incorporated by reference to Exhibit 3.2 of the Registrant s Current Report on Form 8-K filed on October 23, 2015.
4.1	Form of Specimen Stock Certificate, incorporated by reference to Exhibit 4.1 of the Registration Statement on Form S-3 (File No. 333-151891) filed on July 14, 2004.
4.2	Form of Series A Warrant Certificate issued to certain purchasers of the Registrant's common stock in December 2011, incorporated by reference to Exhibit 4.3 of the Registrant's Current Report on Form 8-K filed on December 16, 2011.
4.3	Form of Warrant Certificate issued to certain purchasers of the Registrant's common stock in April 2015, incorporated by reference to the Registrant's Current Report on Form 8-K filed on April 27, 2015.
4.4	Form of Series A Warrant issued to certain purchasers of the Registrant s common stock in March 2016, incorporated by reference to Exhibit 4.1 of the Registrant s Current Report on Form 8-K filed on March 11, 2016.
4.5	Form of Series B Warrant issued to certain purchasers of the Registrant s common stock in March 2016, incorporated by reference to Exhibit 4.1 of the Registrant s Current Report on Form 8-K filed on March 11, 2016.
4.6*	Form of Non-Transferable Subscription Rights Certificate.
5.1	Opinion of Ropes & Gray LLP.
10.1	Form of at-will Employment Agreement between the Registrant and most of its employees, incorporated by reference to the Registrant s Annual Report on Form 10-K for the fiscal year ended December 31, 2008 and filed on March 16, 2009.
10.2	Form of Agreement for Consulting Services between the Registrant and the members of its Scientific Advisory Board, incorporated by reference to the Registrant s Registration Statement on Form S-1, File No. 33-45739
10.3	Consulting Agreement, dated as of September 25, 1997, between Dr. Irving Weissman and the Registrant, incorporated by reference to the Registrant s Quarterly Report on Form 10-Q for the quarter ended September 30, 1997 and filed on November 14, 1997.
10.4#	StemCells, Inc. Amended and Restated 2004 Equity Incentive Plan, incorporated by reference to the Registrant s Registration Statement on Form S-8, File No. 333-118263.
10.5	License Agreement, dated as of July 1, 2005, between the Registrant and ReNeuron Limited, incorporated by reference to the Registrant s Quarterly Report on Form 10-Q for the quarter ended June

30, 2005.

- 10.6# Letter Agreement, effective as of February 2, 2007, between the Registrant and Kenneth B. Stratton, incorporated by reference to the Registrant s Annual Report on Form 10-K for the fiscal year ended December 31, 2009 and filed on March 11, 2010.
- 10.7# Letter Agreement, effective as of August 6, 2009, between the Registrant and Kenneth B. Stratton, Incorporated by reference to the Registrant s Annual Report on Form 10-K for the fiscal year ended December 31, 2009 and filed on March 11, 2010.

Number	Description
10.8	License Agreement, dated as of January 31, 2006, between Stem Cell Sciences (Australia) Pty Limited and The University of Edinburgh, incorporated by reference to the Registrant s Annual Report on Form 10-K for the fiscal year ended December 31, 2009 and filed on March 11, 2010.
10.9	Lease agreement, dated December 2, 2010, between the Registrant and BMR-Gateway Boulevard LLC, incorporated by reference to the Registrant s Annual Report on Form 10-K for the fiscal year ended December 31, 2010 and filed on March 11, 2011.
10.10#	StemCells, Inc. Director s Fee Plan, incorporated by reference to the Registrant s Annual Report on Form 10-K for the fiscal year ended December 31, 2011 and filed on March 15, 2012.
10.11#	Form of equity award under Registrant s 2012 Commencement Incentive Plan, incorporated by reference to the Registrant s Registration Statement on Form S-8, File No. 333-183712.
10.12#	Amended and Restated 2006 Equity Incentive Plan of StemCells, Inc., incorporated by reference to the Registrant s Registration Statement on Form S-8, File No. 333-144747.
10.13#	2013 Equity Incentive Plan, incorporated by reference to the Registrant s definitive proxy statement filed October 31, 2013.
10.14	Lease agreement, dated March 20, 2013, between the Registrant and Prologis L.P., incorporated by reference to the Registrant s Annual Report on Form 10-K for the fiscal year ended December 31, 2013 and filed on March 13, 2014.
10.15#	Letter Agreement, dated November 13, 2013, between the Registrant and Gregory Schiffman, incorporated by reference to the Registrant s Annual Report on Form 10-K for the fiscal year ended December 31, 2013 and filed on March 13, 2014.
10.16#	Letter Agreement, dated March 6, 2015, between the Registrant and Ian J. Massey, incorporated by reference to the Registrant s Annual Report on Form 10-K for the fiscal year ended December 31, 2015 and filed on March 15, 2016.
10.17#	Letter Agreement, dated January 14, 2016, between the Registrant and Ian J. Massey, incorporated by reference to the Registrant s Annual Report on Form 10-K for the fiscal year ended December 31, 2015 and filed on March 15, 2016.
21.1	Subsidiaries of the Registrant, incorporated by reference to the Registrant s Annual Report on Form 10-K for the fiscal year ended December 31, 2013 and filed on March 13, 2014.
23.1*	Consent of Grant Thornton LLP.
23.2	Consent of Ropes & Gray (included in Exhibit 5.1).
24.1*	Power of Attorney (included in signature pages of Registration Statement)
99.1*	Form of Instructions for Use of Subscription Rights Certificates.
99.2*	Form of Notice of Guaranteed Delivery.
99.3*	Form of Letter to Stockholders who are Record Holders and to Warrant Holders of Record.
99.4*	Form of Letter to Brokers, Dealers, Banks and Other Nominees.
99.5*	Form of Letter to Beneficial Holders.
99.6*	Form of Beneficial Owner Election Form.

99.7* Form of Nominee Holder Certification.

- * Filed herewith.

 Confidential treatment requested as to certain portions. Material has been omitted and separately filed with the Commission.
- # Indicates management compensatory plan, contract or arrangement.