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

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

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

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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 Securities Exchange Act of 1934.

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

CALCULATION OF REGISTRATION FEE

| Title of each class of securities to be registered | Amount to be registration ⁽¹⁾ | Proposed maximum offering price per share ⁽³⁾ | Proposed maximum aggregate offering price | Amount of registration fee |
|--|--|--|---|----------------------------|
| Common Stock Underlying Debentures | 22,058,823 | \$0.65 | \$14,338,235 | \$1,666.10 |
| Common Stock Underlying Series A Warrants | 22,058,823 | \$0.65 | \$14,338,235 | \$1,666.10 |
| Common Stock Underlying Series B Warrants ⁽²⁾ | 15,165,441 | \$0.65 | \$9,857,537 | \$1,145.45 |
| Total: | 59,283,087 | | | \$4,477.65 |

Pursuant to Rule 416 under the Securities Act, the shares of common stock offered hereby also include an (1) indeterminate number of additional shares of common stock as may from time to time become issuable by reason of stock splits, stock dividends, recapitalizations or other similar transactions.

(2) Under the terms of the registration rights agreement with the Company, the Company is contractually required to register a number of common shares issuable under the Senior Secured Convertible Debenture (the “Debenture”) and number of common shares issuable upon the exercise of outstanding Series A Warrants and Series B Warrants to provide for full conversion based on a conversion price and exercise price of \$0.68 per share. However, under the terms of the Series B Warrant, the exercise price is subject to adjustment and the holder may exercise the Series B Warrant at the lower of the exercise price of \$0.68 per share and the market price at the time of exercise. Accordingly, we are registering 125% of number of shares of common stock issuable upon the exercise of

outstanding Series B Warrants.

Calculated in accordance with Rule 457(c) of the Securities Act of 1933, as amended (“Securities Act”). Estimated (3) for the sole purpose of calculating the registration fee and based upon the average of the high and low price per share of our common stock on September 18, 2015, as reported on the Nasdaq Capital Market.

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 Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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The information in this prospectus is not complete and may be changed. We may not sell these securities 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.

Preliminary Prospectus Subject to Completion Dated September 24, 2015

Shares of Common Stock Underlying

Senior Secured Convertible Debentures and Warrants

This prospectus relates to the resale of up to 59,283,087 shares of our common stock to be offered by the selling stockholders including 22,058,823 shares of common stock upon the conversion of outstanding senior secured convertible debentures, 22,058,823 shares of common stock upon the exercise of Series A Warrants and 15,165,441 shares of common stock upon the exercise of Series B Warrants.

The selling stockholders may sell shares of common stock from time to time in the principal market on which our common stock is traded at the prevailing market prices or in privately negotiated transactions. See “Plan of Distribution” which begins on page 18.

We will not receive any of the proceeds from the sale of common stock by the selling stockholders. However, we will generate proceeds in the event of a cash exercise of the warrants by the selling stockholders. No assurance can be given that the warrant holders will exercise the warrants. All expenses of registration incurred in connection with this offering are being borne by us. All selling and other expenses incurred by the selling stockholders will be borne by the selling stockholders.

Our common stock is listed on Nasdaq Capital Market under the symbol “KOOL.” The warrants will not be listed or quoted on any trading market. On September 22, 2015, the last reported sale price of our common stock on the Nasdaq

Capital Market was \$0.66 per share.

We may amend or supplement this prospectus from time to time by filing amendments or supplements as required. You should read the entire prospectus and any amendments or supplements carefully before you make your investment decision.

Investing in our common stock is highly speculative and involves a high degree of risk. You should carefully consider the risks and uncertainties in the section entitled “Risk Factors” beginning on page 4 of this prospectus before making a decision to purchase our stock.

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.

_____, 2015

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PROSPECTUS SUMMARY

The following is only a summary. We urge you to read the entire prospectus, including the more detailed consolidated financial statements, notes to the consolidated financial statements and other information included herein or incorporated by reference from our other filings with the U.S. Securities and Exchange Commission, or SEC. Investing in our securities involves risks. Therefore, please carefully consider the information provided under the heading “Risk Factors” starting on page 4.

Business Overview

Cesca Therapeutics Inc. (“Cesca Therapeutics”, “Cesca”, the “Company”, “we”, “our”, “us”), formerly known as ThermoGene Corp, is focused on the research, development, and commercialization of autologous cell-based therapies that advance the practice of regenerative medicine. The Company was founded in 1986 as ThermoGenesis Corp., a Delaware corporation, with principal offices in Rancho Cordova, California. We are an established leader in the development and manufacture of automated blood and bone marrow processing systems that enable the separation, processing and cryopreservation of cell and tissue therapy products, serving patients, physicians and partners in three target markets:

- Cellular Therapeutics
- Medical/Diagnostic Device Development and Commercialization
- Cell Manufacturing and Banking.

On February 18, 2014, TotipotentRX Corporation (“TotipotentRX”, “Totipotent” or “TRX”), merged with and into ThermoGenesis Corp (“ThermoGenesis”). TRX was a cellular therapeutics development organization with a robust pipeline of human point-of-care experimental therapies in early stage clinical studies using bone marrow and blood derived cells and growth factors. ThermoGenesis was the surviving company and was renamed Cesca Therapeutics Inc. and is now positioned as a fully integrated regenerative medicine company with the ability to research, design and develop the devices, disposables and protocols necessary to facilitate the delivery of cell therapies at the point of care. Unless otherwise indicated, reference to Cesca shall include its subsidiaries and TotipotentRX.

Our business strategy involves:

• A focus on unmet medical needs: our initial focus is on ischemic cardiovascular indications (critical limb ischemia (“CLI”) and acute myocardial infarction (“AMI”)) with oncology and orthopedic protocols to follow.

• A unique point-of-care approach; our CLI and AMI cell therapies require a single visit to the operating room for a treatment lasting only 90-120 minutes.

• Delivery of a fully integrated offering: Cesca delivers all the hardware, software and disposable components necessary for the aspiration and processing of bone marrow and the separation and concentration of a therapeutic dose of stem cells for re-injection into the patient at the point of care.

- The use of autologous, bone marrow derived stem cells: Cesca’s protocols are considered inherently safer because the donor and the recipient of the stem cell preparation is the same individual.

• A highly resource efficient operating model: Cesca leverages its India based clinical research organization embedded within the Fortis network of hospitals for highly cost-effective approach to feasibility studies and early stage clinical trials.

• Multiple shots on goal: Cesca has 9 protocols at various stages of clinical development.

• Patent protection: Cesca has over 30 issued patents globally with several more applications in the pipeline.

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Corporate Information

Our executive offices are located at 2711 Citrus Road, Rancho Cordova, CA. Our telephone number is (916) 858-5100 and our Internet address is www.cescatherapeutics.com. The information on, or that may be accessed from, our website is not part of this prospectus.

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The Offering

Common stock offered by the selling stockholders: 59,283,087 shares of our common stock to be offered by the selling stockholders based the conversion of the Debentures into 22,058,823 shares of common stock at a conversion price of \$0.68 per share, the exercise of Series A Warrants into 22,058,823 shares of common stock at an exercise price of \$0.68 per share, and the exercise of Series B Warrants into 15,165,441 (representing 125% of shares of common stock that may be issued upon the exercise of Series B Warrants at \$0.68 per share). Under the terms of the Series B Warrants, subject to shareholder approval, the holder thereof may exercise the Series B Warrants on a cashless basis. See “Description of Private Placement and Senior Secured Convertible Debentures and Warrants”

Common stock outstanding prior to the offering: 40,616,730

Common stock outstanding after this offering: 99,899,817⁽¹⁾

Use of proceeds: We will not receive any proceeds from the sale of the common stock offered by the selling stockholders. However, we will generate proceeds in the event of a cash exercise of the Warrants by the selling stockholders. We intend to use those proceeds, if any, for general corporate purposes.

Offering price: Some or all of the shares of common stock offered hereby may be sold from time to time in amounts and on terms to be determined by the selling stockholders at the time of sale.

NASDAQ symbol: KOOL

Risk factors: You should carefully consider the information set forth in this prospectus and, in particular, the specific factors set forth in the “Risk Factors” section of this prospectus, before deciding whether or not to invest in shares of our common stock.

(1) The number of shares of common stock outstanding after this offering was based on the assumption of the issuance of 59,283,087 shares of common stock that may issue upon the conversion of Debentures and Series A Warrants and Series B Warrants (at an assumed warrant coverage of 125%) at a conversion and exercise price of \$0.68 per share). Under the terms of the Series B Warrants, the holder thereof will have the right to exercise the Series B Warrants into shares of common stock at lower of (i) the conversion price or (ii) the greater of (1) market price at the time of exercise or (2) \$0.10. In the event that all Debentures were converted at a conversion price of \$0.68, all Series A Warrants were exercised at \$0.68 per share and all Series B Warrants were exercise on a cashless basis at an exercise price of \$0.10 per share, we would be required to issue an additional 242,953,430 shares of common stock for a total of 283,570,160 shares outstanding.

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RISK FACTORS

The following is a summary of the risk factors that we believe are most relevant to our business. You should understand that it is not possible to predict or identify all such factors. Consequently, you should not consider the following to be a complete discussion of all potential risks or uncertainties. We undertake no obligation to publicly update forward-looking statements, whether as a result of new information, future events, or otherwise.

Risks Related to Our Business

Lack of Demonstrated Clinical Utility of Cord Blood Derived Stem Cells Beyond Hematopoietic Transplantation May Result in a Decline in Demand for Cord Blood Banking Services, Adversely Affecting Sales of Our Products.

Transplants using stem cells derived from cord blood and cord tissue have become a standard procedure for treating blood cell lineage disorders including leukemia, lymphoma and anemia. However, clinical research demonstrating the utility of cord blood stem cells for use in treating other diseases or injuries has been minimal, leaving claims of broad clinical utility of cord blood stem cells by cord blood banks largely unsubstantiated. The low utilization rate of banked cord blood samples coupled with the lack of demonstrated clinical results for multiple treatment indications has led to consumer skepticism regarding the benefits of cord blood banking and in turn, a significant reduction in collection rates in a number of geographies in Europe and the U.S. A continued lack of investment in the research and development of supporting clinical data for additional applications may lead to greater skepticism globally, further adversely affecting demand for cord blood banking services and our revenues.

We have Limited Operating History In the Emerging Regenerative Medicine Industry. Through the merger with TotipotentRX, we are in the business of research, development and commercialization of autologous cell-based therapeutics for use in the emerging regenerative medicine industry, and therefore, we have a limited operating history in such industry on which to base an evaluation of our business and prospects. We will be subject to the risks inherent in the operation of a company in an emerging industry such as regulatory setbacks and delays, fluctuations in expenses, competition, and governmental regulation.

Our Potential Products and Technologies Are In Early Stages Of Development. The development of new cell therapy products is a highly risky undertaking, and there can be no assurance that any future research and development efforts we may undertake will be successful. Our potential products in vascular, orthopedic, hematological/oncological and wound care indications will require extensive additional research and development and regulatory approval before any commercial introduction. There can be no assurance that any future research, development and clinical trial efforts will result in viable products or meet efficacy standards.

We Intend To Rely On Third Parties For Certain Functions In Conducting Clinical Trials Of Our Product Candidates. We intend to rely on third parties for certain clinical trial activities of our products. In this regard, we

have renewed and expanded our agreement with Fortis Healthcare Limited, a hospital chain networked throughout India and Asia, for contract clinical trial services programs among other services. The agreement expires in August 2017. Termination of this agreement could jeopardize or delay development of our products.

Delays In The Commencement Or Completion Of Clinical Testing Of Our Products Could Result In Increased Costs To Us And Delay Our Ability To Generate Revenues. Delays in the commencement or completion of clinical testing could significantly impact our product development costs. We do not know whether current or planned clinical trials will begin on time or be completed on schedule, if at all. The commencement of clinical trials can be delayed for a variety of reasons, including delays in:

Obtaining regulatory approval to commence a clinical trial;
Having the necessary funding in place to conduct the clinical trial;

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Reaching agreement on acceptable terms with prospective contract research organizations and clinical trial sites for Phase II and III trials;
Obtaining proper devices for any or all of the product candidates;
Obtaining institutional review board approval to conduct a clinical trial at a prospective site; and
Recruiting participants for a clinical trial.

In addition, once a clinical trial has begun, it may be suspended or terminated by us or the FDA or other regulatory authorities due to a number of factors, including:

Failure to conduct the clinical trial in accordance with regulatory requirements;
Inspection of the clinical trial operations or clinical trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold;
Failure to achieve certain efficacy and/or safety standards;
Reports of serious adverse events including but not limited to death of trial subjects; or
Lack of adequate funding to continue the clinical trial.

Our clinical therapy candidates may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon product development programs that we expect to be pursuing.

We May Seek To Enter Into Collaborative Arrangements To Develop and Commercialize Our Products Which May Not Be Successful. We may seek to enter into collaborative arrangements to develop and commercialize some of our potential products both in North America and international markets. There can be no assurance that we will be able to negotiate collaborative arrangements on favorable terms or at all or that our current or future collaborative arrangements will be successful.

A Significant Portion of our Revenue is Derived from Customers Outside the United States. We may Lose Revenues, Market Share, and Profits due to Exchange Rate Fluctuations, Political and Economic Changes Related to our Foreign Business. In the year ended June 30, 2015, sales to customers outside the U.S. comprised approximately 47% of our revenues. This compares to 57% in fiscal 2014. Our foreign business is subject to economic, political and regulatory uncertainties and risks that are unique to each area of the world. Fluctuations in exchange rates may also affect the prices that our foreign customers are willing to pay, and may put us at a price disadvantage compared to other competitors. Potentially volatile shifts in exchange rates may negatively affect our financial position and results.

The Loss of a Significant Distributor or End User Customer may Adversely Affect our Financial Condition and Results of Operations. Revenues from three significant distributors/customers comprised 45% of our revenues for the year ended June 30, 2015. The loss of a large end user customer or distributor may decrease our revenues.

We may be Exposed to Liabilities under the Foreign Corrupt Practices Act and any Determination that we Violated these Laws could have a Material Adverse Effect on our Business. We are subject to the Foreign Corrupt Practices Act (“FCPA”), and other laws that prohibit improper payments or offers of payments to foreign governments and their officials and political parties by U.S. persons and issuers as defined by the statute, for the purpose of obtaining or retaining business. It is our policy to implement safeguards to discourage these practices by our employees. However, our existing safeguards and any future improvements may prove to be less than effective and the employees, consultants, sales agents or distributors of our Company may engage in conduct for which we might be held responsible. Violations of the FCPA may result in severe criminal or civil sanctions and we may be subject to other liabilities, which could negatively affect our business, operating results and financial condition.

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Adverse Results of Legal Proceedings could have a Material Adverse Effect on Us. We are subject to, and may in the future be subject to, a variety of legal proceedings and claims that arise out of the ordinary conduct of our business. Results of legal proceedings cannot be predicted with certainty. Irrespective of their merits, legal proceedings may be both lengthy and disruptive to our operations and may cause significant expenditure and diversion of management attention. We may be faced with significant monetary damages or injunctive relief against us that could have a material adverse effect on a portion of our business operations or a material adverse effect on our financial condition and results of operations.

Risks Related to Our Operations

Our Ability to Conduct a CLIRST III Clinical Trial is Substantially Dependent On Our Ability to Receive a Grant from the California Institute for Regenerative Medicine (“CIRM”). Under the terms of the August 31, 2015 financing, our ability to initiate the CLIRST III clinical trial and to access the \$9.5 million in gross proceeds from the second closing of the Debentures is dependent on our obtaining notice of a CIRM grant in the amount of \$10.0 million subject to adjustment for approved Medicare reimbursements. In the event that we do not obtain CIRM approval of a grant in the amount of \$10.0 million, we will be required to seek other alternative methods of financing in order to obtain funds for working capital and to initiate the CLIRST III clinical trial.

The Debentures Contain Certain Restrictive Covenants that May Affect our Operations. Under the terms of the Debentures, we are restricted from taking certain actions including incurring additional debt not in the ordinary course of business over a certain dollar threshold without the Debenture holders’ approval. This restriction may adversely affect our operations since the interests of the Debenture holders may be different from the interests of the Company.

We may not Achieve the Benefits Expected from our Recent Restructuring. In September 2015, we effected a strategic reorganization which resulted in the elimination of approximately 15 positions. Non-recurring severance costs of approximately \$245 are expected to be recorded in the first quarter of fiscal 2016. This action, combined with open positions that have been eliminated, is expected to reduce annual operating costs by approximately \$3.3 million. The timing of events, our anticipated reduction in costs and better alignment between our workforce and business, could differ materially from our estimates. This reduction in force and any future workforce and expense reductions may have an adverse impact on our clinical and commercial activities.

We Do Not Have Commercial-Scale Manufacturing Capability And Lack Commercial Manufacturing Experience. We operate GMP manufacturing facilities for both devices and cellular production; however, they are not of sufficient size for medium to large commercial production of product candidates. We will not have large scale experience in cell-drug formulation or manufacturing, and will lack the resources and the capability to manufacture any of our product candidates on a clinical or commercial scale. Accordingly, we expect to depend on third-party contract manufacturers for the foreseeable future. Any performance failure on the part of our contract manufacturers could delay clinical development, regulatory approval or commercialization of our current or future products, depriving us of potential product revenues and resulting in additional losses.

We Have Limited Sales, Marketing and Distribution Experience in Pharmaceutical Products. We have limited experience in the sales, marketing, and distribution of pharmaceutical products. There can be no assurance that we will be able to establish sales, marketing, and distribution capabilities or make arrangements with current collaborators or others to perform such activities or that such effort will be successful. If we decide to market any of our new products directly, we must either partner, acquire or internally develop a marketing and sales force with technical expertise and with supporting distribution capabilities. The acquisition or development of a sales, marketing and distribution infrastructure would require substantial resources, which may not be available to us or, even if available, divert the attention of our management and key personnel, and have a negative impact on further product development efforts.

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Our Inability to Protect our Patents, Trademarks, Trade Secrets and other Proprietary Rights could Adversely Impact our Competitive Position. We believe that our patents, trademarks, trade secrets and other proprietary rights are important to our success and our competitive position. Accordingly, we commit substantial resources to the establishment and protection of our patents, trademarks, trade secrets and proprietary rights. We use various methods, including confidentiality agreements with employees, vendors, and customers, to protect our trade secrets and proprietary know-how for our products. We currently hold patents for products, and have patents pending in certain countries for additional products that we market or intend to market. However, our actions to establish and protect our patents, trademarks, and other proprietary rights may be inadequate to prevent imitation of our products by others or to prevent others from claiming violations of their trademarks and proprietary rights by us. If our products are challenged as infringing upon patents of other parties, we may be required to modify the design of the product, obtain a license, or litigate the issues, all of which may have an adverse business effect on us.

We may be Subject to Claims that our Products or Processes Infringe the Intellectual Property Rights of Others, which may Cause us to Pay Unexpected Litigation Costs or Damages, Modify our Products or Processes or Prevent us from Selling our Products. Although it is our intention to avoid infringing or otherwise violating the intellectual property rights of others, third parties may nevertheless claim that our processes and products infringe their intellectual property and other rights. Our strategies of capitalizing on growing international demand as well as developing new innovative products across multiple business lines present similar infringement claim risks both internationally and in the U.S. as we expand the scope of our product offerings and markets. We compete with other companies for contracts in some small or specialized industries, which increase the risk that the other companies will develop overlapping technologies leading to an increased possibility that infringement claims will arise. Whether or not these claims have merit, we may be subject to costly and time-consuming legal proceedings, and this could divert our management's attention from operating our business. In order to resolve such proceedings, we may need to obtain licenses from these third parties or substantially re-engineer or rename our products in order to avoid infringement. In addition, we might not be able to obtain the necessary licenses on acceptable terms, or at all, or be able to re-engineer or rename our products successfully.

We Commercially, in Co-Branding, with Fortis Healthcare, Bank and Store Private Cord Blood Stem Cells in our TotipotentRX GMP Facility. We could be Subject to Unexpected Litigation Costs or Damages for Loss of One or More Family Owned Units of Cord Blood or if one of the Cord Blood Units We Store Causes Bodily Injury. We face an inherent business risk of exposure to product liability claims if our products or product candidates are alleged or found to have caused injury, or cannot be used for some reason within our control and are found to result in injury or death. While we believe that our current liability insurance coverage is adequate for our present clinical and commercial activities we may not be able to maintain insurance on acceptable terms or at all. If we are unable to obtain insurance or any claims against us substantially exceed our coverage, then our business could be adversely impacted.

If our Cord Blood Processing and Storage Facility in Gurgaon, India is Damaged or Destroyed, our Business, Programs and Prospects could be Negatively Affected. We process and store our customers' umbilical cord blood at our facility within Fortis Memorial Research Institute (a hospital) in Gurgaon, India. If this facility or the equipment in the facility were to be significantly damaged or destroyed, we could suffer a loss of some or all of the stored cord

blood units. Depending on the extent of loss, such an event could reduce our ability to provide cord blood stem cells when requested, could expose us to significant liability from our cord blood banking customers and could affect our ability to continue to provide umbilical cord blood preservation services.

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We may not be able to Protect our Intellectual Property in Countries Outside the United States. Intellectual property law outside the United States is uncertain and in many countries is currently undergoing review and revisions. The laws of some countries do not protect our patent and other intellectual property rights to the same extent as United States laws. This is particularly relevant to us as a significant amount of our current and projected future sales are outside of the United States. Third parties may attempt to oppose the issuance of patents to us in foreign countries by initiating opposition proceedings. Opposition proceedings against any of our patent filings in a foreign country could have an adverse effect on our corresponding patents that are issued or pending in the United States. It may be necessary or useful for us to participate in proceedings to determine the validity of our patents or our competitors' patents that have been issued in countries other than the U.S. This could result in substantial costs, divert our efforts and attention from other aspects of our business, and could have a material adverse effect on our results of operations and financial condition.

Any Failure to Achieve and Maintain the High Design and Manufacturing Standards that our Products Require may Seriously Harm our Business. Our products require precise, high-quality manufacturing. Achieving precision and quality control requires skill and diligence by our personnel as well as our vendors. Our failure to achieve and maintain these high manufacturing standards, including the incidence of manufacturing errors, design defects or component failures could result in patient injury or death, product recalls or withdrawals, delays or failures in product testing or delivery, cost overruns or other problems that could seriously hurt our business. Additionally, the large amount of AXP disposable inventory certain distributors and end-users maintain may delay the identification of a manufacturing error and expand the financial impact. A manufacturing error or defect, or previously undetected design defect, or uncorrected impurity or variation in a raw material component, either unknown or undetected, could affect the product. Despite our very high manufacturing standards, we cannot completely eliminate the risk of errors, defects or failures. If we or our vendors are unable to manufacture our products in accordance with necessary quality standards, our business and results of operations may be negatively affected.

Our Revenues and Operating Results may be Adversely Affected as a Result of our Required Compliance with the Adopted EU Directive on the Restriction of the Use of Hazardous Substances in Electrical and Electronic Equipment, as well as other Standards Around the World. A number of domestic and foreign jurisdictions seek to restrict the use of various substances, a number of which have been or are currently used in our products or processes. For example, the EU Restriction of Hazardous Substances in Electrical and Electronic Equipment ("RoHS") Directive now requires that certain substances, which may be found in certain products we have manufactured in the past, be removed from all electronics components. Eliminating such substances from our manufacturing processes requires the expenditure of additional research and development funds to seek alternative substances for our products, as well as increased testing by third parties to ensure the quality of our products and compliance with the RoHS Directive. Other countries, such as China, have enacted or may enact laws or regulations similar to RoHS. While we have implemented a compliance program to ensure our product offerings meet these regulations, there may be instances where alternative substances will not be available or commercially feasible, or may only be available from a single source, or may be significantly more expensive than their restricted counterparts. Additionally, if we were found to be non-compliant with any such rule or regulation, we could be subject to fines, penalties and/or restrictions imposed by government agencies that could adversely affect our operating results.

Compliance with Government Regulations Regarding the Use of “Conflict Minerals” may Result in Additional Expense and Affect our Operations. The SEC has adopted a final rule to implement Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, which imposes new disclosure requirements regarding the use of “conflict minerals” mined from the Democratic Republic of Congo and adjoining countries. These minerals include tantalum, tin, gold and tungsten. We may incur significant costs associated with complying with the new disclosure requirements, including but not limited to costs related to determining which of our products may be subject to the rules and identifying the source of any “conflict minerals” used in those products. Additionally, implementing the new requirements could adversely affect the sourcing, supply and pricing of materials used in the manufacture of our products. We may also face reputational challenges if we are unable to verify through our compliance procedures the origins for all metals used in our products.

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Our Products may be Subject to Product Recalls which may Harm our Reputation and Divert our Managerial and Financial Resources. The FDA and similar governmental authorities in other countries have the authority to order the mandatory recall of our products or order their removal from the market if the governmental entity finds our products might cause adverse health consequences or death. The FDA may also seize product or prevent further distribution. A government-mandated or voluntary recall by us could occur as a result of component failures, manufacturing errors or design defects (including labeling defects). In the past we have initiated voluntary recalls of some of our products and we could do so in the future. Any recall of our products may harm our reputation with customers, divert managerial and financial resources and negatively impact our profitability.

We are Dependent on our Suppliers and Manufacturers to Meet Existing Regulations. Certain of our suppliers and manufacturers are subject to heavy government regulations, including FDA QSR compliance, in the operation of their facilities, products and manufacturing processes. Any adverse action by the FDA against our suppliers or manufacturers could delay supply or manufacture of component products required to be integrated or sold with our products. Although we attempt to mitigate this risk through inventory held directly or through distributors, and audit our suppliers, there are no assurances we will be successful in identifying issues early enough to allow for corrective action or transition to an alternative supplier, or in locating an alternative supplier or manufacturer to meet product shipment or launch deadlines. As a result, our sales, contractual commitments and financial forecasts may be significantly affected by any such delays.

Dependence on Suppliers for Disposable Products and Custom Components may Impact the Production Schedule. The Company obtains certain disposable products and custom components from a limited number of suppliers. If the supplier raises the price or discontinues production, the Company may have to find another qualified supplier to provide the item or re-engineer the item. In the event that it becomes necessary for us to find another supplier, we would first be required to qualify the quality assurance systems and product quality of that alternative supplier. Any operational issues with re-engineering or the alternative qualified supplier may impact the production schedule, therefore delaying revenues, and this may cause the cost of disposables or key components to increase.

Failure to Meet Certain Financial Covenants could Decrease our AXP Revenues. Under certain license and escrow agreements, if we fail to meet certain financial covenants, other companies may take possession of the escrowed intellectual property and initiate manufacturing of the applicable device and disposables. If this were to occur, our revenues would be negatively impacted. In order to remain compliant we may have to do additional financings or provide consideration to the counter party to modify the obligations.

Failure to Retain or Hire Key Personnel may Adversely Affect our Ability to Sustain or Grow our Business. Our ability to operate successfully and manage our potential future growth depends significantly upon retaining key research, technical, clinical, regulatory, sales, marketing and managerial personnel. Our future success partially depends upon the continued services of key technical and senior management personnel. Our future success also depends on our continuing ability to attract, retain and motivate highly qualified managerial and technical personnel. The inability to retain or attract qualified personnel could have a significant negative effect upon our efforts and

thereby materially harm our business and future financial condition.

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Most of Our Operations Are Conducted At A Single Location. Any Disruption At Our Facilities Could Delay Revenues Or Increase Our Expenses. Our U.S. device operations are conducted at a single location although we contract the manufacturing of certain devices, disposables and components. Further, through the TotipotentRX merger, we have research, clinical and manufacturing operations in Emeryville, CA and Gurgaon, India. We take precautions to safeguard our facilities, through insurance, health and safety protocols, and off-site storage of computer data. However, a natural disaster, such as a fire, flood or earthquake, could cause substantial delays in our operations, damage or destroy our manufacturing equipment or inventory, and cause us to incur additional expenses. The insurance we maintain against fires, floods, and other natural disasters may not be adequate to cover our losses in any particular case.

Failure to Maintain and/or Upgrade Our Information Technology Systems May Have an Adverse Effect on Our Operations. We rely on various information technology systems to manage our operations, and we regularly evaluate these systems against our current and expected requirements. Although we have no current plans to implement modifications or upgrades to our systems, we will eventually be required to make changes to legacy systems and acquire new systems with new functionality. Any information technology system disruptions, if not anticipated and appropriately mitigated, could have an adverse effect on our business and operations.

Risks Related to Our Industry

Our Business is Heavily Regulated, Resulting in Increased Costs of Operations and Delays in Product Sales. Many of our products require FDA approval or clearance to sell in the U.S. and will require approvals from comparable agencies to sell in foreign countries. These authorizations may limit the U.S. or foreign markets in which our products may be sold. Further, our products must be manufactured under requirements of our quality system for continued CE-Marking so they can continue to be marketed and sold in Europe. These requirements are similar to the QSR of both the FDA and California Department of Public Health. Failure to comply with or incorrectly interpret these quality system requirements and regulations may subject the Company to delays in production while it corrects deficiencies found by the FDA, the State of California, or the Company's notifying body as a result of any audit of our quality system. If we are found to be out of compliance, we could receive a Warning Letter or an untitled letter from the FDA or even be temporarily shut down in manufacturing and product sales while the non-conformances are rectified. Also, we may have to recall products and temporarily cease their manufacture and distribution, which would increase our costs and reduce our revenues. The FDA may also invalidate our PMA or 510(k) if appropriate regulations relative to the PMA or 510(k) product are not met. The notified bodies may elect to not renew CE-Mark certification. Any of these events would negatively impact our revenues and costs of operations.

Changes in Governmental Regulations may Reduce Demand for our Products or Increase our Expenses. We compete in many markets in which we and our customers must comply with federal, state, local and international regulations, such as environmental, health and safety and food and drug regulations. We develop, configure and market our products to meet customer needs created by those regulations. Any significant change in regulations could reduce demand for our products or increase our expenses. For example, many of our instruments are marketed to the industry for enabling new regenerative therapies. Changes in the FDA's regulation of the devices and products directed at regenerative medicine, and development process for new therapeutic applications could have an adverse effect on the

demand for these products.

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To Sell in International Markets, we will be Subject to Regulation in Foreign Countries. In cooperation with our distribution partners, we intend to market our current and future products both domestically and in many foreign markets. A number of risks are inherent in international transactions. In order for us to market our products in certain non-U.S. jurisdictions, we need to obtain and maintain required regulatory approvals or clearances and must comply with extensive regulations regarding safety, manufacturing processes and quality. These regulations, including the requirements for approvals or clearances to market, may differ from the FDA regulatory scheme. International sales also may be limited or disrupted by political instability, price controls, trade restrictions and changes in tariffs. Additionally, fluctuations in currency exchange rates may adversely affect demand for our products by increasing the price of our products in the currency of the countries in which the products are sold.

There can be no assurance that we will obtain regulatory approvals or clearances in all of the countries where we intend to market our products, or that we will not incur significant costs in obtaining or maintaining foreign regulatory approvals or clearances, or that we will be able to successfully commercialize current or future products in various foreign markets. Delays in receipt of approvals or clearances to market our products in foreign countries, failure to receive such approvals or clearances or the future loss of previously received approvals or clearances could have a substantial negative effect on our results of operations and financial condition.

To Operate In Foreign Jurisdictions, We Are Subject to Regulation by Non-U.S. Authorities. As a result of the merger, we have operations in India, and as such are subject to Indian regulatory agencies. A number of risks are inherent in conducting business and clinical operations overseas. In order for us to operate as a majority owned foreign corporation in India, we are subject to financial regulations imposed by the Reserve Bank of India. This includes the rules specific to the capital funding, pledging of assets, repatriation of funds and payment of dividends from and to the foreign subsidiaries and from and to us in the U.S.

In order for us to manufacture and/or market our services and products in India, we need to obtain and maintain required regulatory approvals or clearances and must comply with extensive regulations regarding safety, manufacturing processes and quality. These regulations, including the requirements for approvals or clearances to market, and/or export may differ from the FDA regulatory scheme. Additionally, in order for us to complete clinical trials, clinical trial services and cell banking in India, and other foreign jurisdictions, we need to obtain and maintain approvals and licenses which comply with extensive regulations of the appropriate regulatory body.

International operations also may be limited or disrupted by political, economic or social instability, price controls, trade restrictions and changes in tariffs as ordered by various governmental agencies. Additionally, fluctuations in currency exchange rates may adversely affect the cost of production for our products by increasing the price of materials and other inputs for our products in the currency of the countries in which the products are sold.

If Our Competitors Develop and Market Products That Are More Effective Than Our Product Candidates Or Obtain Regulatory and Market Approval For Similar Products Before We Do, Our Commercial Opportunity May Be Reduced Or Eliminated. The development and commercialization of new pharmaceutical products which target cardiovascular, orthopedic, chronic dermal wounds and other conditions addressed by our current and future products is competitive, and we will face competition from numerous sources, including major biotechnology and pharmaceutical companies worldwide. Many of our competitors have substantially greater financial and technical resources, and development, production and marketing capabilities than we do. In addition, many of these companies have more experience than we do in pre-clinical testing, clinical trials and manufacturing of compounds, as well as in obtaining FDA and foreign regulatory approvals. As a result, there is a risk that one of the competitors will develop a more effective product for the same indications for which we are developing a product or, alternatively, bring a similar product to market before we can. With regards to the BioArchive and AXP Systems, numerous larger and better-financed medical device manufacturers may choose to enter this market as it develops.

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Influence by the Government and Insurance Companies may Adversely Impact Sales of our Products. Our business may be materially affected by continuing efforts by government, third party payers such as Medicare, Medicaid, and private health insurance plans, to reduce the costs of healthcare. For example, in certain foreign markets the pricing and profit margins of certain healthcare products are subject to government controls. In addition, increasing emphasis on managed care in the U.S. will continue to place pressure on the pricing of healthcare products. As a result, continuing efforts to contain healthcare costs may result in reduced sales or price reductions for our products. To date, we are not aware of any direct impact on our pricing or product sales due to such efforts by governments to contain healthcare costs, and we do not anticipate any impact in the near future.

Product Liability and Uninsured Risks May Adversely Affect the Continuing Operations. We operate in an industry susceptible to significant product liability claims. We may be liable if any of our products cause injury, illness, or death. These claims may be brought by individuals seeking relief or by groups seeking to represent a class. We also may be required to recall certain of our products should they become damaged or if they are defective. We are not aware of any material product liability claims against us. However, product liability claims may be asserted against us in the future based on events we are not aware of at the present time. We maintain a product liability policy for \$3,000 and a general liability policy that includes product liability coverage of \$3,000 per occurrence and \$3,000 per year in the aggregate. However, a product liability claim against us could have a material adverse effect on our business or future financial condition.

We Commercially Process Stem Cells under a Physician's Order for use in Clinical Applications in India. Our GMP laboratory within Fortis Memorial Research Institute in Gurgaon, India, does process stem cells for certain uses under a physician's order, and we charge for these services. This service is primarily focused on our growing initiative in bone marrow transplant. We could face product or service liability claim(s) for a bodily injury asserted by a claimant as a result from our GMP services. We mitigate our risks by adhering to international standards, maintain international certification by BSI to GMP, are U.S FDA registered for such activities and are inspected by the Drugs Controller General of India. We believe our global liability insurance is sufficient to cover claims, but in the event it is not it could materially impact our financial health.

Risks Related to Operating Results and Financial Markets

We Have Incurred Net Losses and Losses will Continue. We have not been profitable for a significant period. For the fiscal year ended June 30, 2015 and 2014, we had a net loss of \$14,852 and \$8,631 respectively and an accumulated deficit at June 30, 2015, of \$137,674. We will continue to incur significant costs as we develop and market our current products and related applications. Although we are executing our business plan to develop, market and launch new products, continuing losses may impair our ability to fully meet our objectives for new product sales or threaten our ability to continue as a going concern.

We Will Need to Raise Additional Capital to Fund our Operations and in Furtherance of Our Business Plan. We will need to raise additional capital in the near future to fund our operations and in furtherance of our business plan,

including progression of the CLI and Acute Myocardial Infarction Rapid Stem Cell Therapy (“AMIRST”) clinical trials and development of other new products. The proposed financing may include shares of common stock, shares of preferred stock, warrants to purchase shares of common stock or preferred stock, debt securities, units consisting of the forgoing securities, equity investments from strategic development partners or some combination of each. Any additional equity financings may be financially dilutive to, and will be dilutive from an ownership perspective to our stockholders, such dilution may be significant based upon the size of such financing.

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Our Future Financial Results Could be Adversely Impacted by Asset Impairment Charges. We are required to test both goodwill and intangible assets for impairment on an annual basis based upon a fair value approach. We have chosen to perform our annual impairment reviews of goodwill and other intangible assets during the fourth quarter of each fiscal year. We also are required to test for impairment between annual tests if events occur or circumstances change that would more likely than not reduce our enterprise fair value below its book value. These events or circumstances could include results of our on-going clinical trials, activities and results of our competitor's clinical trials, a significant change in the regulatory climate, legal factors, operating performance indicators, or other factors. If the fair market value is less than the book value of goodwill, we could be required to record an impairment charge. The valuation requires judgment in estimating future cash flows, discount rates and estimated product life cycles. In making these judgments, we evaluate the financial health of the business, including such factors as industry performance, changes in technology and operating cash flows.

As of June 30, 2015 we have a goodwill balance of \$13,195 and a net intangible assets balance of \$21,295, out of total assets of \$50,757. As a result, the amount of any annual or interim impairment could be significant and could have a material adverse effect on our reported financial results for the period in which the charge is taken.

A Material Weakness in our Internal Control Over Financial Reporting has been Identified and our Business and Stock Price may be Adversely Affected if We do not Adequately Address this Weakness or if We have other Material Weaknesses or Significant Deficiencies in our Internal Control Over Financial Reporting. Subsequent to the completion of the audit of our consolidated financial statements for the year ended June 30, 2014, it was determined that a deficiency exists in our governance practices related to the timeliness and consistency of communications between the audit committee, management and the auditors. This deficiency was concluded to represent a material weakness in our internal control over financial reporting. This issue was discussed by the audit committee and we have developed and are implementing plans to remediate this material weakness, including the engagement of an independent outside counsel who reviewed our corporate governance procedures and recommended appropriate changes and the formation of a Disclosure Committee. This material weakness in our internal control, or any other material weakness or significant deficiencies in our internal control over financial reporting, could adversely affect our stock price and value.

Risks Related to Our Common Stock

You May Experience Substantial Dilution Upon the Exercise of the Series B Warrants. In connection with the August 31, 2015 financing, we issued Series B Warrants entitling the holders to purchase up to 12,132,353 shares of Common Stock at an exercise price of \$0.68. The number of Series B Warrants which may be exercised is subject to vesting in proportion to the amount of funds received by us under the Debentures. The Series B Warrants are exercisable upon the earlier of shareholder approval or the six month anniversary of the issuance date. Following shareholder approval, the Series B Warrants may be exercised on a cashless basis at market price at the time of exercise if it is lower than the conversion price, \$0.68, subject to a floor \$0.10 per share. In the event that our market price is substantially less than the conversion price, the cashless exercise of the Series B Warrants will result in substantial dilution to the other shareholders.

The Debentures are Secured by All of our Assets. The Debentures issued by us in our recent financing are secured by all of our assets. If we were to default under the Debentures, we could lose rights to all of our assets including our equipment, patents, trademarks and operations in India.

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If the Price of our Common Stock Does Not Meet the Requirements of the NASDAQ Capital Market Stock Exchange, Our Shares may be Delisted. Our Ability to Publicly or Privately Sell Equity Securities and the Liquidity of Our Common Stock Could be Adversely Affected if We Are Delisted. The listing standards of NASDAQ provide, among other things, that a company may be delisted if the bid price of its stock drops below \$1.00 for a period of 30 consecutive business days. The bid price of our stock has been below \$1.00 for a period of greater than 30 consecutive business days. As such, on March 30, 2015, we received a notice from the NASDAQ Listing Qualifications Department informing us that we must regain compliance with listing requirements or face delisting. In order to regain compliance, at any time before September 28, 2015, the bid price of our common stock must close at a price of at least \$1.00 per share for a minimum of 10 consecutive business days. The notice states that NASDAQ will provide us with written notification when our common stock has regained compliance.

If compliance cannot be demonstrated by September 28, 2015, then NASDAQ will decide whether we meet all applicable standards for initial listing on the Capital Market (except the bid price requirement) based on our most recent public filings and market information. The notice states that, if we meet these standards, then we are eligible to have an additional 180 calendar day compliance period. NASDAQ can deny the extension if it does not appear to them that it is possible for us to cure the deficiency. Delisting from NASDAQ could adversely affect our ability to raise additional financing through the public or private sale of equity securities, would significantly affect the ability of investors to trade our securities and would negatively affect the value and liquidity of our common stock. Delisting could also have other negative results, including the potential loss of confidence by employees, the loss of institutional investor interest and fewer business development opportunities.

Certain Principal Stockholders Have Significant Influence Over Us. As a result of the merger with TotipotentRX, Messrs. Harris and Sivilotti, our President and a key employee, respectively, own approximately 23% of our current outstanding common stock. As a result, they will be able to exert a significant degree of influence over our management and affairs and over matters requiring stockholder approval, including the election of directors, any merger, consolidation or sale of all or substantially all of the combined company's assets, and any other significant corporate transaction. Their interests may not always coincide with those of our other stockholders.

Liquidity of our Common Stock. Although there is a public market for our common stock, trading volume has been historically low, which could impact the stock price and the ability to sell shares of our common stock. We can give no assurance that an active and liquid public market for the shares of the common stock will continue in the future. In addition, future sales of large amounts of common stock could adversely affect the market price of our common stock and our ability to raise capital. The price of our common stock could also drop as a result of the exercise of options for common stock or the perception that such sales or exercise of options could occur. These factors could also have a negative impact on the liquidity of our common stock and our ability to raise funds through future stock offerings.

We do not Pay Cash Dividends. We have never paid any cash dividends on our common stock and may not pay cash dividends in the future. Instead, we intend to apply earnings to the expansion and development of our business. Thus, the liquidity of your investment is dependent upon your ability to sell stock at an acceptable price. The price can go

down as well as up and may limit your ability to realize any value from your investment, including the initial purchase price.

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CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as “anticipates,” “believes,” “forecast,” “potential,” “contemplates,” “expects,” “intends,” “plans,” “believes,” “seeks,” “estimates,” “could,” “would,” “will,” “may,” “can” and similar expressions identify forward-looking statements. The forward-looking statements are not guarantees of future performance and are subject to risks and uncertainties that could cause actual results to differ materially from the results contemplated by the forward-looking statements, including the following:

- the potential value created by our recent merger with TRX;
- the conduct and results of TRX’s research, discovery and preclinical efforts and clinical trials;
- anticipated timelines for product development efforts;
- the amount of time required to obtain regulatory approvals for our product candidates;
- our plans regarding future research, discovery and preclinical efforts and clinical activities;
- our intellectual property and regulatory activities;
- information concerning our possible future or assumed results;
- the period in which we expect cash to be available to fund our current operating plans after giving effect to the merger;
- future required funding needs;
- the benefits of merger;
- our results of operations, financial condition and businesses, and products and drug candidates under development and the expected impact of the proposed merger on us financial and operating performance;
- estimates concerning future revenues and other future financial and other results;
- our product candidates that appear promising in early research and clinical trials but may not demonstrate safety and efficacy in subsequent clinical trials;
- revenues and income from TRX’s anticipated future products may not meet expectations;
- we may not be able to obtain the equity or debt financing necessary to support its anticipated level of operations;
- risks associated with reliance on collaborative partners for further clinical trials and other development activities; and
- risks involved with development and commercialization of product candidates.

Many of the important factors that will determine these results and values are beyond our control or our ability to predict. You are cautioned not to put undue reliance on any forward-looking statements. Except as otherwise required by law, we do not assume any obligation to update any forward-looking statements. In evaluating an investment in us, you should carefully consider the discussion of risks and uncertainties in the section entitled “Risk Factors” in this prospectus.

Table Of Contents**USE OF PROCEEDS**

We are registering shares of our common stock pursuant to registration rights granted to the Selling Stockholder. We will not receive any of the proceeds from the sale of the common stock by the Selling Stockholders named in this prospectus. All proceeds from the sale of the common stock will be paid directly to the Selling Stockholder.

If all the Warrants held by the selling stockholders in this offering are exercised for cash at \$0.68 per share, we could receive proceeds of up to approximately \$23,250,000 from the exercise of those Warrants. We intend to use the estimated net proceeds received upon exercise of the Warrants, if any, for funding our clinical trials, working capital and general corporate purposes, including payment of obligations and liabilities that we incur in the ordinary course of business. We cannot assure you that any Warrants will be exercised.

PRICE RANGE OF OUR COMMON STOCK

Our common stock, \$0.001 par value, is listed on the Nasdaq Stock Market under the symbol KOOL. The following table sets forth the range of high and low sales prices for our common stock for the past two fiscal years as reported on the Nasdaq Stock Market. As of September 22, 2015, the high and low bid price for a share of our common stock was \$0.69 and \$0.65 respectively.

| Fiscal 2015 | High | Low | Fiscal 2014 | High | Low |
|--------------------------|--------|--------|--------------------------|--------|--------|
| First Quarter (Sep. 30) | \$1.42 | \$1.17 | First Quarter (Sep. 30) | \$1.52 | \$1.01 |
| Second Quarter (Dec. 31) | \$1.29 | \$1.00 | Second Quarter (Dec. 31) | \$1.12 | \$0.72 |
| Third Quarter (Mar. 31) | \$1.10 | \$0.79 | Third Quarter (Mar. 31) | \$2.82 | \$1.05 |
| Fourth Quarter (June 30) | \$0.99 | \$0.76 | Fourth Quarter (June 30) | \$2.06 | \$1.39 |

As of September 10, 2015, there were approximately 236 stockholders of record of our common stock. Because many of our shares of common stock are held by brokers and other institutions on behalf of stockholders, we are unable to estimate the total number of stockholders represented by these record holders.

DIVIDEND POLICY

We currently intend to retain any future earnings to finance the growth and development of our business. Therefore, we do not anticipate declaring or paying any cash dividends in the foreseeable future. Any future determination as to the declaration and payment of dividends, if any, will be at the discretion of our Board of Directors and will depend on then existing conditions, including our financial condition, operating results, contractual restrictions, capital requirements, business prospects and other factors our Board of Directors may deem relevant.

Table Of Contents**SELLING STOCKHOLDERS**

The following table identifies the Selling Stockholder, as of September 1, 2015, and indicates certain information known to us with respect to (i) the number of shares of common stock held by the Selling Stockholder, (ii) the amount to be offered for the Selling Stockholder' account, and (iii) the number of shares and percentage of outstanding shares of common stock to be owned by the Selling Stockholders after the sale of the common stock offered by the Selling Stockholder. The Selling Stockholders are not obligated to sell their common stock offered by this Prospectus.

The number of shares listed under "Shares Offered Hereby" in the table assumes that the Selling Stockholders will sell all their shares of common stock in a secondary offering pursuant to this Prospectus.

Under the Securities Exchange Act of 1934, as amended (the "Exchange Act") any person engaged in a distribution of our common stock offered by this Prospectus may not also engage in market making activities with respect to our common stock during the applicable periods prior to the commencement of such distribution. In addition, each Selling Stockholders may be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder including Regulation M. Moreover, the Selling Stockholders may resell their shares pursuant to Rule 144.

| <u>Name of Shareholder</u> | Shares Beneficially Owned | | | Shares Offered Hereby⁽²⁾ | Shares Beneficially Owned | | |
|--|----------------------------------|------------------------|--|--|----------------------------------|-------------------|--|
| | Prior to Offering | | | | After the Offering | | |
| | Number | Percentage | | Number | Number | Percentage | |
| Sabby Healthcare Master Fund, Ltd. | 39,210,465 ⁽¹⁾⁽³⁾ | 40.48 % ⁽³⁾ | | 35,795,453 | 3,415,012 | 3.53 % | |
| Sabby Volatility Warrant Master Fund, Ltd. | 22,651,187 ⁽¹⁾⁽³⁾ | 23.38 % ⁽³⁾ | | 20,454,545 | 2,196,642 | 2.27 % | |

Ownership includes warrants exercisable (1) on September 1, 2015 as follows:
~~\$625,000~~
 Volatility Warrant

Master
Fund
Ltd.
Sabby
Healthcare
Volatility
1,135,900
Master
Fund
Ltd.

- (2) Number of shares is based on a conversion price of \$0.68. The conversion price is subject to adjustment. See footnote 1 of the Prospectus Summary on page 3.
- Represents the number of shares of common stock assuming the conversion of Debentures and exercise of Warrants. However, under the terms of Debentures and Warrants, such conversion and exercise is subject to a
- (3) beneficial ownership limitation pursuant to which holder may not convert or exercise for shares if such conversion or exercise would cause them to hold more than 9.99% of the number of shares of common stock outstanding upon conversion or exercise.

Relationship with Selling Stockholder

Other than as a shareholder of the Company, none of the Selling Stockholders has had a relationship with us within the past three years.

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PLAN OF DISTRIBUTION

We are registering 59,283,087 shares of our common stock and warrants for possible sale by the Selling Stockholders.

Each Selling Stockholders (the “Selling Stockholders”) of the securities and any of their pledgees, assignees and successors-in-interest may, from time to time, sell any or all of their securities covered hereby on the Nasdaq Capital Market or any other stock exchange, market or trading facility on which the securities are traded or in private transactions. These sales may be at fixed or negotiated prices. A Selling Stockholder may use any one or more of the following methods when selling securities:

- ordinary brokerage transactions and transactions in which the broker dealer solicits purchasers;
- block trades in which the broker dealer will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker dealer as principal and resale by the broker dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- settlement of short sales;
- in transactions through broker dealers that agree with the Selling Stockholders to sell a specified number of such securities at a stipulated price per security;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- a combination of any such methods of sale; or
- any other method permitted pursuant to applicable law.

The Selling Stockholders may also sell securities under Rule 144 under the Securities Act of 1933, as amended (the “Securities Act”), if available, rather than under this prospectus.

Broker dealers engaged by the Selling Stockholders may arrange for other brokers dealers to participate in sales. Broker dealers may receive commissions or discounts from the Selling Stockholders (or, if any broker dealer acts as agent for the purchaser of securities, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this Prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2440; and in the case of a principal transaction a markup or markdown in compliance with FINRA IM-2440.

In connection with the sale of the securities or interests therein, the Selling Stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the

securities in the course of hedging the positions they assume. The Selling Stockholders may also sell securities short and deliver these securities to close out their short positions, or loan or pledge the securities to broker-dealers that in turn may sell these securities. The Selling Stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or create one or more derivative securities which require the delivery to such broker-dealer or other financial institution of securities offered by this prospectus, which securities such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The Selling Stockholders and any broker-dealers or agents that are involved in selling the securities may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the securities purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each Selling Stockholder has informed us that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the securities.

We are required to pay certain fees and expenses incurred by us incident to the registration of the securities. We have agreed to indemnify the Selling Stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

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We agreed to keep this prospectus effective until the earlier of (i) the date on which the securities may be resold by the Selling Stockholders without registration and without regard to any volume or manner-of-sale limitations by reason of Rule 144, without the requirement for the Company to be in compliance with the current public information under Rule 144 under the Securities Act or any other rule of similar effect or (ii) all of the securities have been sold pursuant to this prospectus or Rule 144 under the Securities Act or any other rule of similar effect. The resale securities will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale securities covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale securities may not simultaneously engage in market making activities with respect to the common stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the Selling Stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of the common stock by the Selling Stockholders or any other person. We will make copies of this prospectus available to the Selling Stockholders and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

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**DESCRIPTION OF PRIVATE PLACEMENT AND
SENIOR SECURED CONVERTIBLE DEBENTURES AND WARRANTS**

Financing Transaction; Securities Purchase Agreement

On August 31, 2015, we entered into a securities purchase agreement (the “Purchase Agreement”) with an institutional accredited investor (the “Investor”). Pursuant to the terms of the Purchase Agreement, we sold the Investor Senior Secured Convertible Debentures in principal amount of \$15,000,000 (“Debentures”), Series A warrants (“Series A Warrants”) to purchase up to 22,058,823 shares of Company’s common stock (“Series A Warrant Shares”) at an exercise price equal to \$0.68 per Series A Warrant Share and Series B warrants (“Series B Warrants” and together with the Series A Warrants, “Warrants”) to purchase up to 12,132,353 shares of Company’s common stock (“Series B Warrant Shares” and together with the Series A Warrant Shares, “Warrant Shares”) at an exercise price equal to \$0.68 per Series B Warrant Share (the “Financing”). The Financing will be conducted through two closings. The Financing had an initial closing on August 31, 2015 (the “Initial Closing”) and a second closing remains subject to the satisfaction of certain closing conditions discussed below (“Second Closing”). The Series A Warrants and the Series B Warrants are both subject to vesting in proportion to the amount of funds received by Company under the Debenture.

In connection with the Financing, we entered into a registration rights agreement (the “Registration Rights Agreement”) and a security agreement (the “Security Agreement”) with the Investor. Further, we covenanted (a) to cause its subsidiaries to enter into a guaranty (the “Subsidiary Guarantee”) and join the Security Agreement, and (b) to enter into a deposit control agreement with Bank of America, N.A. with respect to a deposit control account.

At the Initial Closing, we received gross proceeds of \$5.5 million. The remaining \$9.5 million of gross proceeds from the Financing will be deposited into our deposit control account and will be released upon our receiving (i) stockholder approval of certain share issuances relating to the Financing to meet Nasdaq listing requirements, (ii) stockholder approval of an amendment to our certificate of incorporation increasing its authorized number of shares of common stock to 350,000,000, and (iii) approval from California Institute for Regenerative Medicine (“CIRM”) of a grant in the amount of \$10 million, subject to certain possible offsetting by Medicare eligibility reimbursements, for clinical trials to treat no option patients with critical limb ischemia. Certain directors, officers and shareholders of Company representing approximately 25.7% of the outstanding shares of Common stock have entered into a voting agreement pursuant to which such persons, as shareholders, agreed to vote all of their shares of Common Stock in favor of the issuances of Common Stock in connection with the Financing and to amend our certificate of incorporation to increase its authorized number of shares of Common Stock. We intend to seek stockholder approval for these matters at a special stockholders meeting to be held on or before November 9, 2015.

In connection with the Financing, we paid Maxim Group LLC, the placement agent (the "Placement Agent"), an aggregate cash fee equal to \$440,000 in connection with the Initial Closing and will pay \$760,000 upon the Second Closing as well as the reimbursement of certain expenses.

The Purchase Agreement provides that we will not issue any securities for a period of 90 days following the date of effectiveness of the resale registration statement. Further, under the Purchase Agreement, until August 31, 2018, we will not enter into any new variable rate securities transactions. For a period of 5 years following the date of effectiveness of the resale registration statement, the Investor has the right to participate in the purchase of 50% of the securities offered by we in any future financing transactions.

Description of the Senior Secured Convertible Debenture

The Debentures are due August 31, 2045, bear no interest, may be convertible into shares of our common stock at a conversion price of \$0.68 per share and are secured by all of our assets. The Investor may convert the Debentures at any time into Common Stock. The conversion price of the Debentures is subject to adjustment for stock splits, stock dividends, combinations or similar events. The conversion is subject to a beneficial ownership limitation, pursuant to which the holder may not convert to shares if the conversion would cause them to hold more than 9.99% of the number of shares of the Common Stock outstanding upon conversion.

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For so long as the Debentures are outstanding, we are prohibited from taking certain actions without the consent of the holders of at least 67% in principal amount of the then outstanding Debentures, including but not limited to, prohibitions against: (a) incursion of any indebtedness, (b) incursions of any liens, or (c) payment of cash dividends.

The Debentures contain standard and customary events of default including, but not limited to: (i) failure to make payments when due under the Debentures; (ii) our bankruptcy or insolvency; (iii) certain failures (in the case of the Debentures) to comply with the requirements under the Registration Rights Agreement as described below; or (iv) engagement in a change of control or other fundamental transaction.

In addition to standard and customary events of default, it will constitute an event of default under the Debentures if we fail to: (a) receive shareholder approval to amend its certificate of incorporation to increase the authorized number of shares of common stock from 150,000,000 to 350,000,000 or (b) receive approval of a CIRM grant of at least \$10 million by January 31, 2016.

If there is an event of default, the holder of the Debentures may require us to redeem all or any portion of the Debentures (including all accrued and unpaid interest, if any), in cash, at a price equal to the greater of: (i) the outstanding principal amount of the Debentures, plus all accrued and unpaid interest thereon, divided by the conversion price on the date the default amount is either (A) demanded (if demand or notice is required to create an event of default) or otherwise due or (B) paid in full, whichever has a lower conversion price, multiplied by the VWAP on the date the default amount is either (x) demanded or otherwise due or (y) paid in full, whichever has a higher VWAP, or (ii) 130% of the outstanding principal amount of the Debentures, except (1) if the default is due to the failure to receive shareholder approval to increase the number of authorized shares, then 110% of the outstanding principal amount of the Debentures, or (2) if the default is due to the failure to receive CIRM grant, then 110% of the outstanding principal amount of the Debentures.

Description of the Warrants

Series A Warrant:

The Series A Warrants entitle the holders to purchase, in the aggregate, up to 22,058,823 shares of Common Stock at an exercise price of \$0.68 per share for a period of five and one-half years. The Series A Warrants are exercisable upon the earlier of shareholder approval or the six month anniversary of the issuance date. The exercise price of the Warrants is subject to adjustment for stock splits, stock dividends, combinations or similar events. The Warrants may be exercised for cash or, upon the failure to maintain an effective registration statement, on a cashless basis. The exercise is subject to a beneficial ownership limitation, pursuant to which the holder may not exercise for shares if the

exercise would cause them to hold more than 9.99% of the number of shares of the Common Stock outstanding upon exercise.

Series B Warrant:

The Series B Warrants entitle the holders of the Warrants to purchase, in the aggregate, up to 12,132,353 shares of Common Stock with an exercise price of \$0.68. The Series B Warrants are exercisable upon the earlier of shareholder approval or the six month anniversary of the issuance date. Following shareholder approval, the Series B Warrants may be exercised on a cashless basis at market price at the time of exercise if it is lower than the conversion price subject to a floor of \$0.10 per share. The exercise price of the Series B Warrants is subject to adjustment for stock splits, stock dividends, combinations or similar events. The exercise is subject to a beneficial ownership limitation, pursuant to which the holder may not exercise for shares if the exercise would cause them to hold more than 9.99% of the number of shares of the Common Stock outstanding upon exercise.

The Series A and B Warrants are subject to vesting to approximate the amount of funds actually received by Company under the Debentures.

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DESCRIPTION OF OUR SECURITIES

As of September 1, 2015, our amended and restated certificate of incorporation authorizes the issuance of up to 150,000,000 shares of common stock, par value \$0.001 per share, and 2,000,000 shares of preferred stock, par value \$0.001 per share. We are holding a shareholder meeting on October 30, 2015, seeking to amend our certificate of incorporation to authorize the issuance of up to 350,000,000 shares of common stock, par value \$0.001 per share, and 2,000,000 shares of preferred stock, par value \$0.001 per share; however we can make no assurances as to the outcome of that meeting.

Common Stock

Each holder of common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, except matters that relate only to one or more of the series of preferred stock, and each holder does not have cumulative voting rights. Accordingly, the holders of a majority of the shares of common stock entitled to vote in any election of directors can elect all of the directors standing for election, if they so choose.

Subject to preferences that may be applicable to any then outstanding preferred stock, holders of common stock are entitled to receive ratably those dividends, if any, as may be declared from time to time by the board of directors out of legally available funds. In the event of our liquidation, dissolution or winding up, holders of common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any outstanding shares of preferred stock.

Holders of common stock have no preemptive or conversion rights or other subscription rights, and there are no redemption or sinking fund provisions applicable to the common stock. All outstanding shares of common stock are, and the shares of common stock offered by us in this offering, when issued and paid for, will be fully paid and nonassessable. The rights, preferences, and privileges of the holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate in the future.

Preferred Stock

Under the terms of our amended and restated certificate of incorporation, we may issue preferred stock with the rights, preferences and privileges may be established from time to time by our board of directors.

Warrants

In addition to the Series A Warrants and Series B Warrants, we have issued in private and public offerings warrants to purchase:

1,125,000 shares of common stock at \$2.64 per share which expire on March 9, 2016;
1,668,400 shares of common stock at \$2.81 per share, which expire on January 29, 2019; and
2,259,000 shares of common stock at \$1.55 per share, which expire on June 18, 2019.

Effect of Certain Provisions of Our Amended and Restated Certificate of Incorporation and Bylaws

Amended and Restated Certificate of Incorporation and Bylaws

Some provisions of Delaware law and our amended and restated certificate of incorporation and bylaws contain provisions that could make the following transactions more difficult:

acquisition of us by means of a tender offer;
acquisition of us by means of a proxy contest or otherwise; or
removal of our incumbent officers and directors.

These provisions, summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids and to promote stability in our management. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors.

Undesignated Preferred Stock. The ability to authorize undesignated preferred stock makes it possible for our board of directors to issue one or more series of preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of us. These and other provisions may have the effect of deterring hostile takeovers or delaying changes in control or management of our company.

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Stockholder Meetings. Our bylaws provide that a special meeting of stockholders may be called only by the Chief Executive Officer or by the board of directors or the Chairman of the Board or by one or more shareholders holding shares in the aggregate entitled to cast not less than 10% of the votes at that meeting.

Requirements for Advance Notification of Stockholder Nominations and Proposals. Our bylaws establish advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of our board of directors or a committee of the board of directors.

Board of Directors Vacancies. Under our bylaws, any vacancy on the board of directors, including a vacancy resulting from an enlargement of the board of directors, may only be filled by vote of a majority of the remaining directors. The classification of the board of directors and the limitations on the removal of directors and filling of vacancies would have the effect of making it more difficult for a third party to acquire control of us, or of discouraging a third party from acquiring control of us.

Board of Directors Size. Under our bylaws, the board of directors has the power to set the size of the board. The ability to increase or decrease the size of the board in conjunction with the other provisions above could make it more difficult for a third party to acquire control of the Company.

Limitation of Liability

The Delaware General Corporation Law (“DGCL”) permits Delaware corporations to eliminate or limit the monetary liability of directors for breach of their fiduciary duty of care, subject to limitations. Our amended and restated certificate of incorporation provides that our directors shall not be liable to us or our stockholders for monetary damages for breach of fiduciary duty as a director, except to the extent such exemption or limitation thereof is not permitted under the DGCL as the same exists or may hereafter be amended.

The DGCL provides for indemnification of directors, officers, employees and agents, subject to limitations. Both our amended and restated certificate of incorporation and bylaws provide for the indemnification of our directors, officers, employees and agents to the fullest extent permitted by Delaware law. Our directors and officers also are insured against certain liabilities for actions taken in such capacities, including liabilities under the Securities Act.

Section 145(a) of the DGCL provides that a Delaware corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation) by reason of the fact that such person is or was a director, officer, employee or agent of the corporation or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation or enterprise, against expenses, judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal action or proceeding, if such person had no cause to believe the conduct was unlawful.

Section 145(b) of the DGCL provides that a Delaware corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that such person acted in any of the capacities set forth above, against expenses actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit if such person acted under similar standards to those set forth above, except that no indemnification may be made in respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation, unless and only to the extent that the court in which such action or suit was brought shall determine that despite the adjudication of liability, but in view of all the circumstances of the case, such person is fairly and reasonably entitled to be indemnified for such expenses which the court shall deem proper.

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Section 145 of the DGCL further provides that to the extent a director or officer of a corporation has been successful in the defense of any action, suit or proceeding referred to in subsection (a) and (b) or in the defense of any claim, issue or matter therein, such person shall be indemnified against expenses actually and reasonably incurred by such person in connection therewith; that indemnification provided for by Section 145 shall not be deemed exclusive of any other rights to which the indemnified party may be entitled; and that the corporation may purchase and maintain insurance on behalf of a director or officer of the corporation against any liability asserted against such officer or director and incurred by such person in any such capacity or arising out of such person's status as such, whether or not the corporation would have the power to indemnify such person against such liabilities under Section 145.

As permitted by Section 102(b)(7) of the DGCL, our amended and restated certificate of incorporation provides that none of our directors shall be liable to us or our stockholders for monetary damages for breach of fiduciary duty as a director. However, this provision does not eliminate or limit the liability of a director for acts or omissions not in good faith or for breaching such person's duty of loyalty, engaging in intentional misconduct or knowingly violating the law, paying a dividend or approving a stock repurchase which was illegal, or obtaining an improper personal benefit. A provision of this type has no effect on the availability of equitable remedies, such as injunction or rescission, for breach of fiduciary duty.

We have a policy of directors' liability insurance that insures the directors and officers against the cost of defense, settlement or payment of a judgment under certain circumstances.

We believe that the foregoing policies and provisions of our amended and restated certificate of incorporation and bylaws are necessary to attract and retain qualified officers and directors. Insofar as indemnification for liabilities arising under the Securities Act may be permitted with respect to our directors, officers or persons controlling the registrant pursuant to the foregoing provisions, the registrant has been informed that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Investor Services, LLC, 350 Indiana Street, Suite 750, Golden, CO 80401.

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INDEMNIFICATION OF DIRECTORS AND OFFICERS

Our Amended and Restated Certificate of Incorporation provides that we will indemnify our directors and officers to the fullest extent permitted by the laws of the state of Delaware. Further, our bylaws provide authority for us to maintain a liability insurance policy that insures our directors or officers against any liability incurred by them for service to us.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted for our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by us of expenses incurred or paid by a director, officer, or controlling person of our company 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, unless in the opinion of our counsel, the matter has been settled by controlling precedent, we will submit to a court of appropriate jurisdiction the question of whether such indemnification is against public policy as expressed in the Securities Act and will be governed by final adjudication.

EXPERTS

The consolidated financial statements of Cesca Therapeutics Inc. for the fiscal year ended June 30, 2015 appearing in Cesca Therapeutics Inc.'s Annual Report (Form 10-K) for the year ended June 30, 2015 have been audited by Marcum LLP, independent registered public accounting firm, as set forth in their report dated September 17, 2015 thereon, included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

The consolidated financial statements of Cesca Therapeutics Inc. for the fiscal year ended June 30, 2014 appearing in Cesca Therapeutics Inc.'s Annual Report (Form 10-K) for the year ended June 30, 2015 have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report dated September 29, 2014 thereon, included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

LEGAL MATTERS

The validity of the shares of common stock offered through this registration statement has been passed upon by Weintraub Tobin Chediak Coleman Grodin, Law Corporation, Sacramento, California.

INTERESTS OF NAMED EXPERTS AND COUNSEL

No expert or counsel named in this prospectus as having prepared or certified any part of this prospectus or having given an opinion upon the validity of the securities being registered or upon other legal matters in connection with the registration or offering of the shares and warrants and its underlying securities was employed on a contingency basis, or had, or is to receive, in connection with the offering, a substantial interest, direct or indirect, in the registrant or any of its parents or subsidiaries. Nor was any such person connected with the registrant or any of its parents or subsidiaries as a promoter, managing or principal underwriter, voting trustee, director, officer, or employee.

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INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to “incorporate by reference” into this prospectus information that we file with the SEC in other documents. This means that we can disclose important information to you by referring to other documents that contain that information. The information incorporated by reference is considered to be part of this prospectus. Pursuant to Rule 412 under the Securities Act, information contained in this prospectus modifies and supersedes previously filed information, including information in previously filed documents or reports that have been incorporated by reference in this prospectus, to the extent the new information differs from or is inconsistent with the old information. Any information so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

We incorporate by reference, as of their respective dates of filing, the documents listed below that we have filed with the SEC (in each case, other than those documents or the portions of those documents not deemed to be filed):

- (a) The description of securities in Item 1 of the Registration Statement on Form 8A for registration of the Registrant’s common stock pursuant to Section 12(g) of the Exchange Act;
- (b) Our Annual Report on Form 10-K for the fiscal year ended June 30, 2015, filed with the SEC on September 17, 2015 and amendment thereto on Form 10-K/A filed with the SEC on September 24, 2015;
- (c) Our Current Report on Form 8-K dated August 31, 2015 filed with the SEC on September 1, 2015.

You may request a copy of these documents, which will be provided to you at no cost, by writing or telephoning us using the following contact information:

Cesca Therapeutics Inc.

2711 Citrus Road

Rancho Cordova, CA 95729

Attn: Asst. Corporate Secretary

Telephone: (916) 858-5100

WHERE CAN YOU FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 with respect to the shares of common stock offered hereby. This prospectus does not contain all the information set forth in the registration statement, parts of which are omitted in accordance with the rules and regulations of the SEC. For further information with respect to us and the common stock offered hereby, reference is made to the registration statement. Statements contained in this prospectus as to the contents of any contract or other document is not necessarily complete. If a contract or document has been filed as an exhibit to the registration statement, we refer you to the copy of the contract or document that has been filed. Each statement in this prospectus relating to a contract or document filed as an exhibit is qualified in all respects by the filed exhibit.

We file annual, quarterly and current reports, proxy and information statements and other information with the SEC pursuant to the Exchange Act. The SEC maintains an Internet site at <http://www.sec.gov> that contains those reports, proxy and information statements and other information regarding us. You may also inspect and copy those reports, proxy and information statements and other information at the Public Reference Room of the SEC at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the Public Reference Room.

You can access electronic copies of our Annual Report on Form 10-K and Quarterly Reports on Form 10-Q and other reports that we file with the SEC, free of charge, on our website at <http://www.cescatherapeutics.com>. Access to those electronic filings is available as soon as reasonably practicable after they are filed with, or furnished to, the SEC. We make our website content available for information purposes only. It should not be relied upon for investment purposes, nor is it incorporated by reference into this prospectus.

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Shares of Common Stock Underlying

Senior Secured Convertible Debentures and Warrants

CESCA THERAPEUTICS INC.

PROSPECTUS

YOU SHOULD RELY ONLY ON THE INFORMATION CONTAINED IN THIS DOCUMENT OR THAT WE HAVE REFERRED YOU TO. WE HAVE NOT AUTHORIZED ANYONE TO PROVIDE YOU WITH INFORMATION THAT IS DIFFERENT. THIS PROSPECTUS IS NOT AN OFFER TO SELL COMMON STOCK AND IS NOT SOLICITING AN OFFER TO BUY COMMON STOCK IN ANY STATE WHERE THE OFFER OR SALE IS NOT PERMITTED.

The date of this prospectus is September 24, 2015

Table Of Contents**PART II – INFORMATION NOT REQUIRED IN THE PROSPECTUS****Item 13. Other Expenses of Issuance and Distribution.**

The following table sets forth the costs and expenses payable by us in connection with the issuance and distribution of the securities being registered hereunder. No expenses shall be borne by the Selling Stockholder. All of the amounts shown are estimates, except for the SEC registration fee.

| | |
|---------------------------------|---------|
| SEC registration fee | \$4,478 |
| Printing and engraving expenses | \$500* |
| Accounting fees and expenses | (1) |
| Legal fees and expenses | (1) |
| Miscellaneous | (1) |

TOTALS: *(1)

* estimated

(1) to be filed in amendment

Item 14. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law permits indemnification of directors, officers and employees of corporations under certain conditions and subject to certain limitations. Our Amended and Restated Certificate of Incorporation contains provisions for the indemnification of our directors and officers to the fullest extent permitted by law.

Under such law, we are empowered to indemnify any person who was or is a party or is threatened to be made a party to any proceeding (other than an action by or in the right of our company to procure a judgment in its favor) by reason of the fact that such person is or was an officer, director, employee or other agent of us, against expenses, judgments, fines, settlements and other amounts actually and reasonably incurred in connection with such proceeding if such person acted in good faith and in a manner such person reasonably believed to be in our best interests and, in the case of a criminal proceeding, has no reasonable cause to believe the conduct of such person was unlawful. In addition, we may indemnify, subject to certain exceptions, any person who was or is a party or is threatened to be made a party to

any threatened, pending or completed action by or in the right of our company to procure a judgment in our favor by reason of the fact that such person is or was an officer, director, employee or other agent of our company, against expenses actually and reasonably incurred by such person in connection with the defense or settlement of such action if such person acted in good faith and in a manner such person believed to be in the best interest of our company and stockholders. We may advance expenses incurred in defending any proceeding prior to final disposition upon receipt of an undertaking by the agent to repay that amount it shall be determined that the agent is not entitled to indemnification as authorized.

In addition, we have directors' and officers' liability insurance, which our bylaws provide authority to maintain to insure directors or officers against any liability incurred while in capacity as such, or arising out of their status as such.

Item 15. Recent Sales of Unregistered Securities.

In the three years preceding the filing of this Registration Statement, we issued the securities described below that were not registered under the Securities Act.

On February 19, 2014, we issued 82,713 shares of common stock in the aggregate to Kenneth Harris and Mitchel Sivilotti, two of our officers as partial repayment of amounts due to them by a subsidiary of the Company. The issuance of common stock was issued in accordance with the exemption provided by Rule 506 of Regulation D of the Securities Act of 1933 and/or Section 4(a)(2) of the Securities Act of 1933, as amended.

On January 27, 2014, we entered into a securities purchase agreement with institutional investors in connection with a private placement of common stock and warrants to purchase common stock. We received gross proceeds of approximately \$6.67 million resulting from the issuance and sale of approximately 3.33 million shares of Common Stock at a price per share of \$2.00 and the Purchasers will also receive Warrants to purchase up to approximately 1.66 million shares of Common Stock at an exercise price of \$2.81 per share. The Warrants are non-exercisable for six months after the closing and have a term of 5 years. The issuance of Common Stock and Warrants were completed in accordance with the exemption provided by Rule 506 of Regulation D of the Securities Act of 1933 and/or Section 4(a)(2) of the Securities Act of 1933, as amended. Each of the Institutional Investors represented that it was an accredited investor, as defined in Rule 501 of Regulation D.

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On August 31, 2015, we entered into a securities purchase agreement with an institutional accredited investor. Pursuant to the terms of the securities purchase agreement, we sold the investor Senior Secured Convertible Debentures in principal amount of \$15,000,000 (“Debentures”), Series A warrants (“Series A Warrants”) to purchase up to 22,058,823 shares of Company’s common stock (“Series A Warrant Shares”) at an exercise price equal to \$0.68 per Series A Warrant Share and Series B warrants (“Series B Warrants” and together with the Series A Warrants, “Warrants”) to purchase up to 12,132,353 shares of Company’s common stock (“Series B Warrant Shares” and together with the Series A Warrant Shares, “Warrant Shares”) at an exercise price equal to \$0.68 per Series B Warrant Share (the “Financing”). In connection with the financing, we will pay Maxim Group LLC, the placement agent an aggregate cash fee equal to \$440,000 in connection with the initial closing and will pay \$760,000 upon the second closing as well as the reimbursement of certain expenses. The issuance of Debentures and Warrants were completed in accordance with the exemption provided by Rule 506 of Regulation D of the Securities Act of 1933 and/or Section 4(a)(2) of the Securities Act of 1933, as amended. Each of the Institutional Investors represented that it was an accredited investor, as defined in Rule 501 of Regulation D.

Item 16. Exhibits and Financial Statement Schedules**Exhibit**

| Exhibit No. | Document Description | Incorporation by Reference |
|--------------------|---|---|
| 2.1 | Plan of Merger Agreement and Reorganization Agreement between ThermoGenesis Corp. and TotipotentRX, dated July 15, 2013 | Incorporated by reference to Form 8-K dated July 16, 2013 |
| 3.1 | Certificate of Amendment to the Amended and Restated Certificate of Incorporation of Cesca Therapeutics Inc. | Incorporated by reference to Form 8-K dated July 25, 2015 |
| 3.2 | Bylaws of Cesca Therapeutics Inc. | Incorporated by reference to Form 8-K dated April 25, 2014 filed with the SEC on May 1, 2014 |
| 3.2.2 | Restated Bylaws of Cesca Therapeutics Inc. ⁽¹⁾ | Incorporated by reference to Form 8-K dated October 24, 2014 filed with the SEC on October 30, 2014 |
| 3.3 | Certificate of Amendment to the Amended and Restated Certificate of Incorporation of Cesca Therapeutics Inc. | Incorporated by reference to Cesca’s Current Report on Form 8-K filed with the SEC on August 26, 2010. |
| 3.4 | Certificate of Merger. | Incorporated by reference to Cesca Therapeutics Inc. Current Report Form 8-K filed with the SEC on February 18, 2014. |
| 4.1 | Form of Stock Grant Agreement; Common Stock Agreement | Incorporated by reference to Cesca’s Current Report on Form 8-K filed with the SEC on November 5, 2010. |
| 5.1 | Opinion of Weintraub Tobin Chediak Coleman Grodin | ** |
| 10.1 | License Agreement with Pall/Medsep Corporation | Incorporated by reference to Form 8-K dated April 14, 1997. |

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|--------|--|---|
| 10.2.1 | License and Escrow Agreement between Cesca Therapeutics Inc. and CBR Systems, Inc., effective June 15, 2010 | Incorporated by reference to Cesca's Quarterly Report on Form 10-Q for the quarter ended December 31, 2010. |
| 10.2.2 | First Amendment to Technology License and Escrow Agreement between Cesca Therapeutics Inc. and CBR Systems, Inc., effective February 6, 2013 | Incorporate by reference to Form 8-K dated February 12, 2013. |
| 10.2.3 | Extension Addendum to Escrow Agreement, effective July 26, 2013 | Incorporated by reference to Form 8-K dated August 1, 2013. |
| 10.2.4 | Forbearance Agreement to Technology License and Escrow Agreement dated November 26, 2013 | Incorporated by reference to Form 8-K filed with the SEC on November 26, 2013 |

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| Exhibit No. | Document Description | Incorporation by Reference |
|--------------------|---|--|
| 10.3 | Amended 2002 Independent Directors Equity Incentive Plan | Incorporated by reference to Form 8-K dated December 15, 2004. |
| 10.6 | Amended and Restated 2006 Equity Incentive Plan | Incorporated by reference to Form 8-K dated April 25, 2014 filed with the SEC on May 1, 2014. |
| 10.10+ | Product Purchase and International Distribution Agreement between Cesca Therapeutics Inc. and Golden Meditech Holdings, Limited | Incorporated by reference to Form 8-K dated August 24, 2012 and amended October 24, 2012. |
| 10.11 | 2012 Independent Director Plan | Incorporated by reference to Exhibit A of the Company's Definitive Proxy Statement filed October 23, 2012. |
| 10.13 | Employment Agreement between Cesca Therapeutics Inc. and Mitchel Sivilotti dated July 15, 2013 | Incorporated by reference to Form 8-K dated July 16, 2013. |
| 10.14 | Employment Agreement between Cesca Therapeutics Inc. and Kenneth Harris dated July 15, 2013 | Incorporated by reference to Form 8-K dated July 16, 2013. |
| 10.16 | Employment Agreement with Matthew T. Plavan | Incorporated by reference to Form 8-K dated October 30, 2013 |
| 10.17 | Employment Agreement with Dan T. Bessey | Incorporated by reference to Form 8-K dated October 30, 2013 |
| 10.18 | Sales and Purchase Agreement between ThermoGenesis Corp and CBR Systems, Inc. dated December 31, 2013+ | Incorporated by reference to Form 8-K dated January 7, 2014. |
| 10.19 | Employment Agreement with Robin C. Stracey | Incorporated by reference to Form 8-K dated June 15, 2015 |
| 10.20 | Supplement to Employment Agreement with Dan T. Bessey | Incorporated by reference to Form 8-K dated December 1, 2014. |
| 10.21 | Form of Securities Purchase Agreement | Incorporated by reference to Form 8-K dated August 31, 2015. |
| 10.22 | Form of Debenture | Incorporated by reference to Form 8-K dated August 31, 2015. |
| 10.23 | Form of Series A Warrant | Incorporated by reference to Form 8-K dated August 31, 2015. |
| 10.24 | Form of Series B Warrant | Incorporated by reference to Form 8-K dated August 31, 2015. |
| 10.25 | Form of Registration Rights Agreement | Incorporated by reference to Form 8-K dated August 31, 2015. |
| 10.26 | Form of Security Agreement | Incorporated by reference to Form 8-K dated August 31, 2015. |
| 23.1 | Consent of Marcum LLP, Independent Registered Public Accounting Firm | Filed herewith. |
| 23.2 | Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm | Filed herewith. |
| 23.3 | Consent of Weintraub Tobin Chediak Coleman Grodin | ** |

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Footnotes to Exhibit Index

The SEC has granted confidential treatment with respect to certain portions of this exhibit. Omitted portions have⁺ been filed separately with the SEC.

**To be filed in amendment.

Item 17. Undertakings.

The undersigned registrant hereby undertakes:

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

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

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 (ii) was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Securities and Exchange Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

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

Provided, however, That:

(A) Paragraphs (a)(1)(i) and (a)(1)(ii) of this section do not apply if the registration statement is on Form S-8 (§239.16b of this chapter), and the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)) that are incorporated by reference in the registration statement; and

(B) Paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) of this section do not apply if the registration statement is on Form S-3 (§239.13 of this chapter), Form SF-3 (§239.45 of this chapter) or Form F-3 (§239.33 of this chapter) and the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) (§230.424(b) of this chapter) that is part of the registration statement.

(C) Provided further, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the registration statement is for an offering of asset-backed securities on Form SF-1 (§239.44 of this chapter) or Form SF-3 (§239.45 of this chapter), and the information required to be included in a post-effective amendment is provided pursuant to Item 1100(c) of Regulation AB (§229.1100(c)).

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- That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective
- (2) amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

- (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

- 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 of 1933 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
- (ii) 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 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.

- 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
- (5) under the Securities Exchange Act of 1934; 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.

- (6) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to 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 Securities Act of 1933 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 Securities Act of 1933 and will be governed by the final adjudication of such issue.

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SIGNATURES

Pursuant to the requirements of the Securities Act, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Rancho Cordova, State of California, on September 24, 2015.

**CESCA THERAPEUTICS
INC.**

By: /s/ Robin C. Stracey
Name: Robin C. Stracey
Title: Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Robin C. Stracey and Mike Bruch as his true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

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

| Signature | Title | Date |
|--|---|--------------------|
| /s/ Robin C. Stracey Robin C. Stracey | Chief Executive Officer and Director (Principal Executive Officer) | September 24, 2015 |
| /s/ Kenneth Harris Kenneth Harris | President and Director | September 24, 2015 |

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| | | |
|--------------------------------------|--|--------------------|
| /s/ Craig W. Moore Craig W. Moore | Director | September 24, 2015 |
| /s/ Mahendra Rao Mahendra Rao | Director | September 24, 2015 |
| /s/ Denis Rhein Denis Rhein | Director | September 24, 2015 |
| /s/ Mike Bruch Mike Bruch | Interim Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer) | September 24, 2015 |