| ONCOSEC MEDICAL Inc |
|---------------------|
| Form 424B3          |
| December 10, 2013   |
| Table of Contents   |

Filed Pursuant to Rule 424(b)(3) Registration No. 333-189516

**PROSPECTUS** 

OncoSec Medical Incorporated

Up to 23,896,000 Shares of Common Stock Issuable Upon Exercise of Outstanding Warrants

This prospectus relates to the issuance of up to 23,896,000 shares of our common stock upon the exercise of warrants with an exercise price of \$0.35 per share, which were issued by us as part of an offering that closed on September 18, 2013 and which were included in our registration statement on Form S-1 (File No. 333-189516).

Our common stock is listed on the OTC Markets Group Inc.  $\,$ s OTCQB tier under the symbol  $\,$ ONCS  $\,$ . On December 5, 2013, the last reported sales price of our common stock was  $\,$ 90.30 per share.

The shares may be sold or otherwise disposed of from time to time. We may receive proceeds in connection with the exercise of the warrants.

Investing in our securities involves risks. You should review carefully the risks and uncertainties described under the heading Risk Factors beginning on page 3 of this prospectus, and under similar headings in any amendments or supplements to this prospectus.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus is December 10, 2013.

## Table of Contents

## EXPLANATORY NOTE

On December 10, 2013, the registrant previously filed this prospectus supplement with the Securities and Exchange Commission incorrectly pursuant to Rule 424(b)(4) under the Securities Act of 1933, as amended (the Securities Act). The registrant hereby refiles this prospectus supplement pursuant to Rule 424(b)(3) under the Securities Act, as reflected on the cover page hereto. This prospectus supplement is being filed for the sole purpose of correcting the referenced subsection of Rule 424(b) under the Securities Act, and no changes other than such reference have been made to the version of the prospectus supplement previously filed on December 10, 2013.

## Table of Contents

#### TABLE OF CONTENTS

|   | Page |
|---|------|
| PROSPECTUS SUMMARY                                | 1    |
| RISK FACTORS                                      | 3    |
| SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS | 15   |
| <u>USE OF PROCEEDS</u>                            | 15   |
| DESCRIPTION OF SECURITIES                         | 15   |
| PLAN OF DISTRIBUTION                              | 21   |
| LEGAL MATTERS                                     | 21   |
| EXPERTS   | 21   |
| NCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE    | 22   |
| WHERE YOU CAN FIND MORE INFORMATION               | 2.2  |

#### ABOUT THIS PROSPECTUS

You should rely only on the information provided in this prospectus, in any prospectus supplement, including the information incorporated by reference. We have not authorized anyone to provide you with different information. You should not assume that the information in this prospectus or any supplement to this prospectus is accurate at any date other than the date indicated on the cover page of these documents or the date of the statement contained in any incorporated documents, respectively. This prospectus is not an offer to sell or a solicitation of an offer to buy any securities other than the securities referred to in the prospectus supplement. This prospectus is not an offer to sell or a solicitation of an offer to buy such securities in any circumstances in which such offer or solicitation is unlawful. You should not interpret the delivery of this prospectus, or any sale of securities, as an indication that there has been no change in our affairs since the date of this prospectus. You should also be aware that information in this prospectus may change after this date. The information contained in this prospectus or a prospectus supplement or amendment, or incorporated herein or therein by reference, is accurate only as of the date of this prospectus or prospectus supplement or amendment, as applicable, regardless of the time of delivery of this prospectus or prospectus supplement or amendment, as applicable, or of any sale of the shares.

i

**Table of Contents** 

#### PROSPECTUS SUMMARY

This summary does not contain all of the information that should be considered before investing in our common stock. Investors should read the entire prospectus carefully, including the more detailed information regarding our business, the risks of purchasing our common stock discussed in this prospectus under Risk Factors .

As used in this prospectus, unless the context requires otherwise, the Company, we, us, and our refer to OncoSec Medical Incorporated, a Nevada corporation, and its consolidated subsidiary.

### **Our Company**

We are an emerging drug-medical device and therapeutic company focused on designing, developing and commercializing innovative and proprietary medical approaches for the treatment of solid tumors where currently approved therapies are inadequate based on their efficacy or side-effects. Our Company was incorporated under the laws of Nevada on February 8, 2008 under the name Netventory Solutions Inc. Initially, we provided online inventory services to small and medium sized companies. On March 1, 2011, we changed our name to OncoSec Medical Incorporated. In March 2011, we acquired from Inovio Pharmaceuticals, Inc. (Inovio) certain assets related to the use of drug-medical device combination products for the treatment of various cancers. With this acquisition, we have abandoned our efforts in the online inventory services industry and are focusing our efforts in the biomedical industry.

Our assets include intellectual property relating to certain delivery technologies, which we refer to as the OncoSec Medical System (OMS), a therapeutic approach which is based on the use of an electroporation delivery device in combination with an approved chemotherapeutic drug and a DNA-based cytokine to treat solid tumors. These two different approaches represent unique therapeutic modalities, which we refer to as ImmunoPulse and NeoPulse. Our ImmunoPulse approach is based on the use of electroporation to enhance the local delivery of DNA plasmids which, upon uptake into cells, direct the production of immunostimulatory cytokines to generate a local, regional and systemic immune response for the treatment of various cutaneous cancers. Our NeoPulse approach utilizes our electroporation technologies for the local delivery of the chemotherapeutic drug bleomycin to treat solid tumors. OMS consists of an electrical pulse generator console and various disposable applicators specific to the individual tumor size, type and location and is designed to increase the permeability of cancer cell membranes and, as a result, increases the intracellular delivery of selected therapeutic agents. Using either ImmunoPulse, a DNA-based immunotherapy or NeoPulse, a therapy to treat solid tumors, our mission is to enable people with cancer to live longer with a better quality of life than otherwise possible or available with existing therapies.

Cancer is a disease of uncontrolled cell growth. The primary front line treatment of solid tumors involves surgical resection and/or radiation to eliminate or debulk tumor growth prior to initiating systemic therapy with chemotherapeutic agents. In the case of invasive surgical procedures, surgeons will often remove or resect an area outside of the obvious tumor mass to ensure that they have excised all of the cancerous tissue because of the difficulty in determining the border, or margin, between healthy and diseased tissue. This treatment can result in the loss of function and appearance of the surrounding tissues, significantly reducing the patient squality of life. Although there have been recent advances in non-surgical forms of tumor ablation, such as cryoablation, stereotactic, microwave and high frequency radio ablation therapy, we believe they fail to fully satisfy the clinical need to preserve normal healthy tissue. Given the desire for improved outcomes in the surgical resection of solid tumors, we believe that there may be significant demand for our NeoPulse technology from patients, dermatologists and surgical oncologists.

Our NeoPulse approach has been developed up to Phase III clinical trials in the United States for the treatment of recurrent head and neck cancer and Phase I/II for the treatment of recurrent breast cancer. NeoPulse has potential application in a wide range of solid tumors, including basal cell carcinoma, squamous cell carcinoma, melanoma, breast, prostate, and pancreatic cancers. In addition, Phase IV pre-marketing studies to support the commercialization of NeoPulse in Europe have also been performed for the treatment of primary and recurrent head and neck cancers and cutaneous skin cancers. We are actively pursuing opportunities primarily focused in Europe, Asia and North America to partner NeoPulse for further clinical development and commercialization.

When detected early and still confined to a single location, cancer may be cured by surgery or radiation and potentially, by promising new technologies such as NeoPulse. However, neither surgery nor radiation can cure cancer that has spread throughout the body. Although chemotherapy can sometimes effectively treat cancer that has spread throughout the body, a number of non-cancerous cells, such as bone marrow cells, are also highly susceptible to chemotherapy. As a result, chemotherapy often has fairly significant side effects. In addition, it is common to see cancer return after apparently successful treatment by each of these means.

1

#### **Table of Contents**

Immunotherapy, a process which uses the patient s own immune system to treat cancer, may have advantages over surgery, radiation, and chemotherapy. Many cancers appear to have developed the ability to hide from the immune system. A treatment that can augment the immune response against tumor cells by making the cancer more visible to the immune system would likely represent a significant improvement in cancer therapy. Immune-enhancing proteins such as interleukin-2, or IL-2, and interferon-alpha, or IFN- $\alpha$ , have shown encouraging results. However, these agents often require frequent doses that may result in severe side effects.

Two drugs for metastatic melanoma were approved in 2011, both on the basis of increased survival. Yervoy ®, a monoclonal antibody marketed by Bristol-Myers Squibb Co., increases the effectiveness of T-cells that can seek out and destroy melanoma cells. Zelboraf ®, a B-Raf inhibitor marketed by Roche and Daiichi Sankyo, interrupts a key process in melanoma growth in patients with a particular melanoma mutation. Both drugs are associated with significant side effects, and neither is considered a cure for melanoma.

In May 2013, two new drugs for metastatic melanoma were approved. Tafinlar® and Mekinist are single-agent oral treatments for the treatment of unresectable metastatic melanoma. Like Zelboraf®, both of these new agents interrupt a key process in melanoma growth by inhibiting the MAP Kinase signaling pathway. Also, like Zelboraf, these agents can cause significant side effects and long-term use may lead to drug resistance by tumor cells.

Our current ImmunoPulse clinical-stage approach consists of directly injecting solid tumors with a DNA plasmid which, upon uptake into cells, direct the production of the encoded immunostimulatory cytokine to generate a loco-regional immune response against the tumor, which potentially may result in a systemic immune response. The ease of manufacture, convenience, and ability to repeat administration may offer advantages over current modalities of therapy. In addition, cancer therapies using non-viral DNA delivery may offer an added margin of safety compared with viral-based delivery, as no viral particles or other potentially infectious agents are contained in the formulation. A Phase I clinical trial using our ImmunoPulse approach has been completed and three Phase II clinical trials focused on melanoma, Merkel cell carcinoma and cutaneous T-cell lymphoma have been initiated.

Our business model is based on a commercialization strategy that leverages previous in-depth clinical experiences, previous approvals for the electroporation-based devices and late stage clinical studies in the United States and Europe. We may seek regulatory approvals to initiate specific studies in target markets to collect clinical, reimbursement, and pharmacoeconomic data in order to advance our commercialization strategy. Our clinical development strategy includes completing the necessary additional clinical trials in accordance with United States Food and Drug Administration (the FDA) guidelines for cutaneous cancers including select rare cancers that have limited, adverse or no therapeutic alternatives. Our strategy also includes expanding the applications of our technologies through strategic collaborations or evaluation of other opportunities such as in-licensing and strategic acquisitions. We may collaborate with major pharmaceutical and biotechnology companies and government agencies, providing us access to complementary technologies or greater resources. These business activities are intended to provide us with mutually beneficial opportunities to expand or advance our product pipeline and serve significant unmet medical needs. We may license our intellectual property to other companies to leverage our technologies for applications that may not be appropriate for our independent product development.

## **Corporate Information**

We were incorporated under the laws of the State of Nevada on February 8, 2008 under the name Netventory Solutions Inc. to pursue the business of inventory management solutions. Effective March 1, 2011, we completed a merger with our subsidiary, OncoSec Medical Incorporated, a Nevada corporation which was incorporated solely to effect a change in our name. As a result, we have changed our name from Netventory Solutions Inc. to OncoSec Medical Incorporated. Our principal executive offices are located at 9810 Summers Ridge Road,

Suite 110, San Diego, CA 92121. The telephone number at our principal executive office is (855) 662-6732. Our website address is www.oncosec.com. Information contained on our website is not deemed part of this prospectus.

#### **Table of Contents**

#### THE OFFERING

| Securities offered   | Up to 23,896,000 shares of common stock (warrant shares) issuable upon the exercise of outstanding warrants with an exercise price of \$0.35 per share, which were issued by us as part of an offering that closed on September 18, 2013.   |
|--|---|
|  |   |
| Common stock outstanding as of December 5, 2013  | 171,038,526(1)  |
| Common stock outstanding following the issuance of all warrant shares covered by this prospectus | 194,934,526(1)  |
| Use of Proceeds  | We expect to use proceeds received from the exercise of the warrants for working capital and general corporate purposes. However, the warrant holders may choose not to exercise their warrants, and we may never receive any proceeds from their exercise. See Use of Proceeds for more information. |
| OTCOP Markatalaga Symbol   | ONCS  |
| OTCQB Marketplace Symbol   | UNCS  |

<sup>(1)</sup> Excludes (i) 9,000,000 shares of common stock reserved for future issuance under our 2011 Stock Incentive Plan (the 2011 Plan ) and (ii) 55,501,574 shares of common stock issuable upon the exercise of outstanding warrants that are not being registered pursuant to the registration statement of which this prospectus forms a part. As of December 5, 2013, there were (i) options to purchase 4,978,956 shares of our common stock outstanding under the 2011 Plan, with a weighted average exercise price of \$0.23 per share and (ii) 79,397,574 shares of common stock issuable upon the exercise of outstanding warrants with exercise prices ranging from \$0.26 to \$1.20 per share.

## RISK FACTORS

Investment in our common stock and warrants involves a high degree of risk. The following risk factors summarize some of the material risks inherent in and affecting this offering and our business, and you should carefully consider them, addition to the other information contained in this prospectus. This prospectus contains forward-looking statements. Our business, financial condition, results of operations and stock price could be materially adversely affected by any of these risks. Additional risks not presently known to us or that we currently deem immaterial may also impair our business financial condition, results of operations and stock price.

We will need to raise additional capital in future periods to continue operating our business, and such additional funds may not be available on acceptable terms or at all.

We do not generate, and may never generate, any cash from operations and must raise additional funds in order to continue operating our business. We estimate our cash requirements over the annual fiscal period ending July 31, 2014 to be approximately \$9.1 million, which is inclusive of our \$1 million payment to be made in December 2013 to Inovio under the terms of the asset purchase agreement pursuant to which we acquired certain assets from Inovio in March 2011 (the Asset Purchase Agreement ). As of July 31, 2013, we had cash and cash equivalents of approximately \$4.9 million. In addition to the June 2011 Private Placement, we have raised funds through our issuance of common stock and warrants to acquire our common stock on three separate public offerings closed one March 28, 2012, December 17, 2012, and September 18,

2013, which resulted in net proceeds to us of approximately \$7.2 million, \$6.7 million and \$11.1 million, respectively, and issued a collective aggregate of 107,592,000 shares of our common stock and warrants to purchase a collective aggregate of 69,296,000 shares of our common stock to the investors in those offerings, at a per share price of \$0.25 in each case.

We have a history of raising funds through offerings of our common stock, and we may in the future raise additional funds through public or private equity offerings, debt financings or corporate collaborations and licensing arrangements. We expect to continue to fund our operations primarily through equity and debt financings in the future. If additional capital is not available, we may not be able to continue to operate our business pursuant to our business plan or we may have to discontinue our operations entirely. We will require additional financing to fund our planned operations, including developing and commercializing our intellectual property, seeking to license or acquire new assets, researching and developing any potential patents, related compounds and other intellectual property, funding potential acquisitions, and supporting clinical trials and seeking regulatory approval relating to our assets and any assets we may acquire in the future. Additional financing may not be available to us when needed or, if available,

## Table of Contents

may not be available on commercially reasonable terms. If we issue equity or convertible debt securities to raise additional funds, our existing stockholders may experience substantial dilution, and the new equity or debt securities may have rights, preferences and privileges senior to those of our existing stockholders. If we incur additional debt, it may increase our leverage relative to our earnings or to our equity capitalization, requiring us to pay additional interest expenses. Obtaining commercial loans, assuming those loans would be available, would increase our liabilities and future cash commitments.

We may not be able to obtain additional financing if the volatile conditions in the capital and financial markets, and more particularly the market for early development stage biomedical company stocks, persist. Weak economic and capital markets conditions could result in increased difficulties in raising capital for our operations. We may not be able to raise money through the sale of our equity securities or through borrowing funds on terms we find acceptable. If we cannot raise the funds that we need, we will be unable to continue our operations, and our stockholders could lose their entire investment in our company.

We have never generated revenue from our operations.

We have not generated any revenue from operations since our inception. During Fiscal 2013, we incurred a net loss of approximately \$7.2 million. From inception through July 31, 2013, we incurred an aggregate loss of approximately \$13.4 million. We expect that our operating expenses will continue to increase as we continue to pursue FDA approval for our product candidates.

We are an early-stage company with a limited operating history, which may hinder our ability to successfully meet our objectives.

We are an early-stage company with only a limited operating history upon which to base an evaluation of our current business and future prospects and how we will respond to competitive, financial or technological challenges. Only recently have we explored opportunities in the biomedical industry. As a result, the revenue and income potential of our business is unproven. In addition, because of our limited operating history, we have limited insight into trends that may emerge and affect our business. Errors may be made in predicting and reacting to relevant business trends and we will be subject to the risks, uncertainties and difficulties frequently encountered by early-stage companies in evolving markets. We may not be able to successfully address any or all of these risks and uncertainties. Failure to adequately do so could cause our business, results of operations and financial condition to suffer or fail.

We have not commercialized any of our potential product candidates and we cannot predict if or when we will become profitable.

We have not commercialized any product candidate relating to our current assets in the biomedical industry. Our ability to generate revenues from any of our product candidates will depend on a number of factors, including our ability to successfully complete clinical trials, obtain necessary regulatory approvals and negotiate arrangements with third parties to help finance the development of, and market and distribute, any product candidate that receives regulatory approval. In addition, we will be subject to the risk that the marketplace will not accept our products.

Because of the numerous risks and uncertainties associated with our product development and commercialization efforts, we are unable to predict the extent of our future losses or when or if we will become profitable, and it is possible we will never commercialize any of our product

candidates or become profitable. Our failure to obtain regulatory approval and successfully commercialize any of our product candidates would have a material adverse effect on our business, results of operations, financial condition and prospects and could result in our inability to continue operations.

If we are unable to successfully recruit and retain qualified personnel, we may not be able to continue our operations.

In order to successfully implement and manage our business plan, we will depend upon, among other things, successfully recruiting and retaining qualified personnel having experience in the biomedical industry. Competition for qualified individuals is intense. If we are not able to find, attract and retain qualified personnel on acceptable terms, our business operations could suffer.

Additionally, although we have employment agreements with each of our executive officers, these agreements are terminable by them at will and we may not be able to retain their services. The loss of the services of any members of our senior management team could delay or prevent the development and commercialization of any other product candidates and our business could be harmed to the extent that we are not able to find suitable replacements.

## Table of Contents

Future growth could strain our resources, and if we are unable to manage our growth, we may not be able to successfully implement our business plan.

We hope to experience rapid growth in our operations, which will place a significant strain on our management, administrative, operational and financial infrastructure. Our future success will depend in part upon the ability of our executive officers to manage growth effectively. This will require that we hire and train additional personnel to manage our expanding operations. In addition, we must continue to improve our operational, financial and management controls and our reporting systems and procedures. If we fail to successfully manage our growth, we may be unable to execute upon our business plan.

We may be unable to successfully develop and commercialize the assets we have acquired, or acquire, or develop and commercialize new assets and product candidates.

Our future results of operations will depend to a significant extent upon our ability to successfully develop and commercialize in a timely manner the assets we acquired from Inovio related to certain non-DNA vaccine technology and intellectual property relating to selective electrochemical tumor ablation, which we refer to as the OncoSec Medical System, or OMS. In addition, we may acquire new assets or product candidates in the future. There are numerous difficulties inherent in acquiring, developing and commercializing new products and product candidates, including difficulties related to:

- successfully identifying potential product candidates;
- developing potential product candidates;
- difficulties in conducting or completing clinical trials, including receiving incomplete, unconvincing or equivocal clinical trials data;
- obtaining requisite regulatory approvals for such products in a timely manner or at all;
- acquiring, developing, testing and manufacturing products in compliance with regulatory standards in a timely manner or at all;
- being subject to legal actions brought by our competitors, which may delay or prevent the development and commercialization of new products;

- delays or unanticipated costs; and
- significant and unpredictable changes in the payer landscape, coverage and reimbursement for any products we develop.

As a result of these and other difficulties, we may be unable to develop potential product candidates using our intellectual property, and potential products in development by us may not receive timely regulatory approvals, or approvals at all, necessary for marketing by us or our third-party partners. If we do not acquire or develop product candidates, any of our product candidates are not approved in a timely fashion or at all or, when acquired or developed and approved, cannot be successfully manufactured and commercialized, our operating results would be adversely affected. In addition, we may not recoup our investment in developing products, even if we are successful in commercializing those products. Our business expenditures may not result in the successful acquisition, development or commercialization of products that will prove to be commercially successful or result in the long-term profitability of our business.

Certain of our intellectual property is licensed from Inovio pursuant to a non-exclusive license.

As we describe elsewhere in this prospectus, we have acquired certain technology and related assets from Inovio pursuant to the Asset Purchase Agreement. In connection with the closing of the Asset Purchase Agreement, we entered into a cross-license agreement with Inovio. Under the terms of the cross-license agreement, Inovio granted to us a non-exclusive, worldwide license to certain non-SECTA technology patents held by Inovio, and we granted to Inovio a limited, exclusive license to our acquired SECTA technology. While we do not currently rely on the intellectual property we have licensed from Inovio pursuant to this non-exclusive license, our product candidates may in the future utilize this intellectual property. Because the license is non-exclusive, Inovio may use its technology to compete with us. In addition, there are no restrictions on Inovio s ability to license their technology to others. As a result Inovio could license to others, including our competitors, the intellectual property rights covered by their license to us, including any of our improvements to the licensed intellectual property. In addition, either party may terminate the cross-license agreement with 30 days notice if they no longer utilize or sublicense the patent rights they have acquired pursuant to the cross-license. If either party were to terminate the cross-license agreement, they would no longer have the right to use intellectual property that is subject to the cross license.

## Table of Contents

Regulatory authorities may not approve our product candidates or the approvals we secure may be too limited for us to earn sufficient revenues.

The FDA and other foreign regulatory agencies can delay approval of or refuse to approve our product candidates for a variety of reasons, including failure to meet safety and efficacy endpoints in our clinical trials. Our product candidates may not be approved even if they achieve their endpoints in clinical trials. Regulatory agencies, including the FDA, may disagree with our trial design and our interpretation of data from preclinical studies and clinical trials. Clinical trials of our product candidates may not demonstrate that they are safe and effective to the extent necessary to obtain regulatory approvals. We have initiated three Phase II clinical trials to assess our ImmunoPulse technology in patients with metastatic melanoma, Merkel cell carcinoma and cutaneous T-cell lymphoma. If we cannot adequately demonstrate through the clinical trial process that a therapeutic product we are developing is safe and effective, regulatory approval of that product would be delayed or prevented, which would impair our reputation, increase our costs and prevent us from earning revenues. Even if a product candidate is approved, it may be approved for fewer or more limited indications than requested or the approval may be subject to the performance of significant post-marketing studies. In addition, regulatory agencies may not approve the labeling claims that are necessary or desirable for the successful commercialization of our product candidates. Any limitation, condition or denial of approval would have an adverse affect on our business, reputation and results of operations.

Acquisition of the OMS technology included an extensive clinical database from two Phase III clinical trials that were halted before enrollment was completed. In 2007, these two Phase III clinical trials, HNBE-01 and HNBE-02, which were designed to evaluate the use of the NeoPulse technology as a treatment for resectable recurrent and second primary squamous cell carcinomas of the head and neck were halted as a result of a recommendation from the Data Monitoring Committee (DMC). The DMC cited concerns regarding efficacy and safety, including mortality rates and enrollment futility. In the DMC s opinion, although no single parameter was sufficient to warrant recommending a review of the trial, the totality of data for these recurrent head and neck cancer studies suggested an unfavorable benefit-to-risk profile for the NeoPulse arm relative to the surgery arm. Without conducting further analysis, enrollment for both studies were halted, however the treated patients were followed up to two years to further evaluate safety and efficacy, as per the protocol, and the clinical trials were not reinitiated. We are continuing to analyze the available data from 214 patients treated in both Phase III studies. If we are unable to partner, initiate or complete new Phase III or pivotal clinical studies, we will be unable to commercialize the NeoPulse technology.

Delays in the commencement or completion of clinical testing for product candidates based on our OMS technology could result in increased costs to us and delay or limit our ability to pursue regulatory approval or generate revenues.

Clinical trials are very expensive, time consuming and difficult to design and implement. Even if the results of our proposed clinical trials are favorable, clinical trials for product candidates based on our OMS technology will continue for several years and may take significantly longer than expected to complete. Delays in the commencement or completion of clinical testing could significantly affect our product development costs and business plan. We do not know whether our Phase II clinical trials will be completed on schedule, if at all. In addition, we do not know whether any other pre-clinical or clinical trials will begin on time or be completed on schedule, if at all. The commencement and completion of clinical trials can be delayed for a number of reasons, including delays related to:

- obtaining clearance from the FDA or respective international regulatory equivalent to commence a clinical trial;
- reaching agreement on acceptable terms with prospective clinical research organizations, or CROs, clinical investigators and trial sites;

| •   | obtaining institutional review board, or IRB, approval to initiate and conduct a clinical trial at a prospective site;   |
|-----|--|
| • j | identifying, recruiting and training suitable clinical investigators;  |
|     | identifying, recruiting and enrolling subjects to participate in clinical trials for a variety of reasons, including competition from othe programs for similar indications; and   |
|     | retaining patients who have initiated a clinical trial but may be prone to withdraw due to side effects from the therapy, lack of rsonal issues, or for any other reason they choose, or who are lost to further follow-up.                                    |
|     | that we have planned and designed an adequate clinical trial program for our product candidates based on our OMS technology. ne FDA could determine that it is not satisfied with our plan or the details of our pivotal clinical trial protocols and designs. |
|     | 6  |
|     |  |
|     |  |

## Table of Contents

Additionally, changes in applicable regulatory requirements and guidance may occur and we may need to amend clinical trial protocols to reflect these changes. Amendments may require us to resubmit our clinical trial protocols to IRBs for reexamination, which may impact the costs, timing or successful completion of a clinical trial. If we experience delays in completion of, or if we terminate, any of our clinical trials, the commercial prospects for our product candidates may be harmed, which may have a material adverse effect on our business, results of operations, financial condition and prospects.

We must rely on third parties to conduct our clinical trials. If these third parties do not successfully carry out their duties or meet expected deadlines, we may not be able to obtain regulatory approval for or commercialize our product candidates and our business could be substantially harmed.

We expect to enter into agreements with third-party CROs to conduct our planned clinical trials and anticipate that we may enter into other such agreements in the future regarding any future product candidates. We currently rely on these parties for the execution of our clinical and pre-clinical studies, and control only certain aspects of their activities. We, and our CROs, are required to comply with the current FDA Code of Federal Regulations for Conducting Clinical Trials and GCP and ICH guidelines. The FDA enforces these GCP regulations through periodic inspections of trial sponsors, principal investigators, CRO trial sites, laboratories, and any entity having to do with the completion of the study protocol and processing of data. If we, or our CROs, fail to comply with applicable GCP regulations, the data generated in our clinical trials may be deemed unreliable and the FDA may require us to perform additional clinical trials before approving our marketing applications. Upon inspection, the FDA and similar foreign regulators may determine that our clinical trials are not compliant with GCP regulations. Our failure to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process.

If any of our relationships with third-party CROs terminate, we may not be able to enter into arrangements with alternative CROs on commercially reasonable terms, or at all. If CROs do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for other reasons, our clinical trials may be extended, delayed or terminated and we may not be able to obtain regulatory approval for or successfully commercialize our product candidates. As a result, our results of operations and the commercial prospects for our product candidates could be harmed, our costs could increase and our ability to generate additional revenues could be delayed.

We may participate in clinical trials conducted under an approved investigator sponsored investigational new drug (IND) application and correspondence and communication with the FDA pertaining to these trials will strictly be between the investigator and the FDA.

We have in the past, and may in the future, participate in clinical trials conducted under an approved investigator sponsored investigational new drug (IND) application. Regulations and guidelines imposed by the FDA with respect to IND applications include a requirement that the sponsor of a clinical trial provide ongoing communication with the agency as it pertains to safety of the treatment. This communication can be relayed to the agency in the form of safety reports, annual reports or verbal communication at the request of the FDA. Accordingly, it is the responsibility of each investigator (as the sponsor of the trial) to be the point of contact with the FDA. The communication and information provided by the investigator may not be appropriate and accurate, and the investigator has the ultimate responsibility and final decision-making authority with respect to submissions to the FDA. This may result in reviews, audits, delays or clinical holds by the FDA ultimately affecting the timelines for these studies and potentially risking the completion of these trials.

We may incur liability if our promotions of product candidates are determined, or are perceived, to be inconsistent with regulatory guidelines.

The FDA provides guidelines with respect to appropriate product promotion and continuing medical and health education activities. Although we endeavor to follow these guidelines, the FDA or the Office of the Inspector General: U.S. Department of Health and Human Services may disagree, and we may be subject to significant liability, including civil and administrative remedies as well as criminal sanctions. In addition, management s attention could be diverted and our reputation could be damaged.

If we and the contract manufacturers upon whom we rely fail to produce our systems and product candidates in the volumes that we require on a timely basis, or fail to comply with stringent regulations, we may face delays in the development and commercialization of our electroporation equipment and product candidates.

#### **Table of Contents**

We currently assemble certain components of our electroporation systems and utilize the services of contract manufacturers to manufacture the remaining components of these systems and our product supplies for clinical trials. We expect to increase our reliance on third party manufacturers if and when we commercialize our products and systems. The manufacture of our systems and product supplies requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. Manufacturers often encounter difficulties in production, particularly in scaling up for commercial production. These problems include difficulties with production costs and yields, quality control, including stability of the equipment and product candidates and quality assurance testing, shortages of qualified personnel, as well as compliance with strictly enforced federal, state and foreign regulations. If we or our manufacturers were to encounter any of these difficulties or our manufacturers otherwise fail to comply with their obligations to us, our ability to provide our electroporation equipment to our partners and products to patients in our clinical trials or to commercially launch a product would be jeopardized. Any delay or interruption in the supply of clinical trial supplies could delay the completion of our clinical trials, increase the costs associated with maintaining our clinical trial program and, depending upon the period of delay, require us to commence new trials at significant additional expense or terminate the trials completely.

In addition, all manufacturers of our products must comply with cGMP requirements enforced by the FDA through its facilities inspection program. These requirements include, among other things, quality control, quality assurance and the generation and maintenance of records and documentation. Manufacturers of our products may be unable to comply with these cGMP requirements and with other FDA, state and foreign regulatory requirements. We have little control over our manufacturers—compliance with these regulations and standards. A failure to comply with these requirements may result in fines and civil penalties, suspension of production, suspension or delay in product approval, product seizure or recall, or withdrawal of product approval. If the safety of any product is compromised due to our or our manufacturers—failure to adhere to applicable laws or for other reasons, we may not be able to obtain regulatory approval for or successfully commercialize our products, and we may be held liable for any injuries sustained as a result. Any of these factors could cause a delay of clinical trials, regulatory submissions, approvals or commercialization of our products, entail higher costs or result in our being unable to effectively commercialize our products. Furthermore, if our manufacturers fail to deliver the required commercial quantities on a timely basis, pursuant to provided specifications and at commercially reasonable prices, we may be unable to meet demand for our products and would lose potential revenues.

If any product candidate for which we receive regulatory approval does not achieve broad market acceptance or coverage by third-party payors, our revenues may be limited.

The commercial success of any potential product candidates for which we obtain marketing approval from the FDA or other regulatory authorities will depend upon the acceptance of these products by physicians, patients, healthcare payors and the medical community. Coverage and reimbursement of our approved product by third-party payors is also necessary for commercial success. The degree of market acceptance of any potential product candidates for which we may receive regulatory approval will depend on a number of factors, including:

- our ability to provide acceptable evidence of safety and efficacy;
- acceptance by physicians and patients of the product as a safe and effective treatment;
- the prevalence and severity of adverse side effects;

| <ul> <li>the clinical indications for which the product is approved;</li> <li>availability and perceived advantages of alternative treatments;</li> <li>any negative publicity related to our or our competitors products;</li> <li>the effectiveness of our or any current or future collaborators sales, marketing and distribution strategies;</li> <li>pricing and cost effectiveness;</li> <li>our ability to obtain sufficient third-party payor coverage or reimbursement; and</li> <li>the willingness of patients to pay out of pocket in the absence of third-party payor coverage.</li> </ul> | • | limitations or warnings contained in a product s FDA-approved labeling;                                       |
|--|---|---|
| <ul> <li>any negative publicity related to our or our competitors products;</li> <li>the effectiveness of our or any current or future collaborators sales, marketing and distribution strategies;</li> <li>pricing and cost effectiveness;</li> <li>our ability to obtain sufficient third-party payor coverage or reimbursement; and</li> <li>the willingness of patients to pay out of pocket in the absence of third-party payor coverage.</li> </ul>  | • | the clinical indications for which the product is approved;   |
| <ul> <li>the effectiveness of our or any current or future collaborators sales, marketing and distribution strategies;</li> <li>pricing and cost effectiveness;</li> <li>our ability to obtain sufficient third-party payor coverage or reimbursement; and</li> <li>the willingness of patients to pay out of pocket in the absence of third-party payor coverage.</li> </ul>  | • | availability and perceived advantages of alternative treatments;  |
| <ul> <li>pricing and cost effectiveness;</li> <li>our ability to obtain sufficient third-party payor coverage or reimbursement; and</li> <li>the willingness of patients to pay out of pocket in the absence of third-party payor coverage.</li> </ul>   | • | any negative publicity related to our or our competitors products;  |
| <ul> <li>our ability to obtain sufficient third-party payor coverage or reimbursement; and</li> <li>the willingness of patients to pay out of pocket in the absence of third-party payor coverage.</li> </ul>  | • | the effectiveness of our or any current or future collaborators sales, marketing and distribution strategies; |
| • the willingness of patients to pay out of pocket in the absence of third-party payor coverage.   | • | pricing and cost effectiveness;   |
|  | • | our ability to obtain sufficient third-party payor coverage or reimbursement; and                             |
| 8  | • | the willingness of patients to pay out of pocket in the absence of third-party payor coverage.                |
|  |   | 8   |

## Table of Contents

Our efforts to educate the medical community and third-party payors on the benefits of any of our potential product candidates for which we obtain marketing approval from the FDA or other regulatory authorities may require significant resources and may never be successful. If our potential products do not achieve an adequate level of acceptance by physicians, third-party payors and patients, we may not generate sufficient revenue from these products to become or remain profitable.

We may not be successful in executing our strategy for the commercialization of our product candidates. If we are unable to successfully execute our commercialization strategy, we may not be able to generate significant revenue.

We intend to advance a commercialization strategy that leverages previous in-depth clinical experiences, previous CE (Conformité Européene) approvals for the electroporation-based devices and late stage clinical studies in the United States (Phase III) and Europe (Phase IV). This strategy includes seeking approval from the FDA to initiate pivotal registration studies in the United States for select rare cancers that have limited, adverse or no therapeutic alternatives. This strategy also includes expanding the addressable markets for the OMS therapies through the addition of relevant indications. Our commercialization plan also includes partnering and/or co-developing OMS in developing geographic locations, such as Eastern Europe and Asia, where local resources are best leveraged and appropriate collaborators can be secured.

We may not be able to implement our commercialization strategy as we have planned. Further, we have little experience and have not proven our ability to succeed in the biomedical industry and are not certain that our implementation strategy, if implemented correctly, would lead to significant revenue. If we are unable to successfully implement our commercialization plans and drive adoption by patients and physicians of our potential future products through our sales, marketing and commercialization efforts, then we will not be able to generate significant revenue which will have a material adverse effect on our business, results of operations, financial condition and prospects.

In order to market our proprietary products, we may choose to establish our own sales, marketing and distribution capabilities. We have no experience in these areas, and if we have problems establishing these capabilities, the commercialization of our products would be impaired.

We may choose to establish our own sales, marketing and distribution capabilities to market products to our target markets. We have no experience in these areas, and developing these capabilities will require significant expenditures on personnel and infrastructure. While we intend to market products that are aimed at a small patient population, we may not be able to create an effective sales force around even a niche market. In addition, some of our product candidates may require a large sales force to call on, educate and support physicians and patients. We may desire in the future to enter into collaborations with one or more pharmaceutical companies to sell, market and distribute such products, but we may not be able to enter into any such arrangement on acceptable terms, if at all. Any collaboration we do enter into may not be effective in generating meaningful product royalties or other revenues for us.

Our success depends in part on our ability to protect our intellectual property. Because of the difficulties of protecting our proprietary rights and technology, we may not be able to ensure their protection.

Our commercial success will depend in large part on obtaining and maintaining patent, trademark and trade secret protection of our product candidates and their respective components, formulations, manufacturing methods and methods of treatment, as well as successfully defending these patents against third-party challenges. Our ability to stop third parties from making, using, selling, offering to sell or importing our product candidates is dependent upon the extent to which we have rights under valid and enforceable patents or trade secrets that cover these activities.

The coverage claimed in a patent application typically is significantly reduced before a patent is issued, either in the United States or abroad. Consequently, any of our pending or future patent applications may not result in the issuance of patents and any patents issued may be subjected to further proceedings limiting their scope and may in any event not contain claims broad enough to provide meaningful protection. Any patents that are issued to us or our future collaborators may not provide significant proprietary protection or competitive advantage, and may be circumvented or invalidated. In addition, unpatented proprietary rights, including trade secrets and know-how, can be difficult to protect and may lose their value if they are independently developed by a third party or if their secrecy is lost. Further, because development and commercialization of our potential product candidates can be subject to substantial delays, our patents may expire and provide only a short period of protection, if any, following any future commercialization of products. Moreover, obtaining and maintaining patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by government patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements. If any of our patents are found to be invalid or unenforceable, or if we are otherwise unable to adequately protect our rights, it could have a material adverse impact on our business and our ability to commercialize or license our technology and products.

## Table of Contents

We may incur substantial costs as a result of litigation or other proceedings relating to protection of our patent and other intellectual property rights, and we may be unable to successfully protect our rights to our potential products and technology.

If we choose to go to court to stop a third party from using the inventions claimed by our patents, that third party may ask the court to rule that the patents are invalid and/or should not be enforced. These lawsuits are expensive and could consume time and other resources even if we were successful in stopping the infringing activity. In addition, the court could decide that our patents are not valid and that we do not have the right to stop others from using the inventions claimed by the patents.

Additionally, even if the validity of these patents is upheld, the court could refuse to stop a third party s infringing activity on the ground that such activities do not infringe our patents. The U.S. Supreme Court has recently revised certain tests regarding granting patents and assessing the validity of patents to make it more difficult to obtain patents. As a consequence, issued patents may be found to contain invalid claims according to the newly revised standards. Some of our patents may be subject to challenge and subsequent invalidation or significant narrowing of claim scope in a reexamination proceeding, or during litigation, under the revised criteria.

Third parties may claim that we infringe their proprietary rights and may prevent us from manufacturing and selling some of our products.

The manufacture, use and sale of new products that are the subject of conflicting patent rights have been the subject of substantial litigation in the biomedical industry. These lawsuits relate to the validity and infringement of patents or proprietary rights of third parties. Litigation may be costly and time-consuming, and could divert the attention of our management and technical personnel. In addition, if we infringe on the rights of others, we could lose our right to develop, manufacture or market products or could be required to pay monetary damages or royalties to license proprietary rights from third parties. Although the parties to patent and intellectual property disputes in the biomedical industry have often settled their disputes through licensing or similar arrangements, the costs associated with these arrangements may be substantial and could include ongoing royalties. Furthermore, we cannot be certain that the necessary licenses would be available to us on commercially reasonable terms or at all. As a result, an adverse determination in a judicial or administrative proceeding or failure to obtain necessary licenses could prevent us from manufacturing and selling our products, and could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Extensive industry regulation has had, and will continue to have, a significant impact on our business, especially our product development, manufacturing and distribution capabilities.

All biomedical companies are subject to extensive, complex, costly and evolving government regulation. For the U.S., these regulations are principally administered by the FDA and to a lesser extent by the United States Drug Enforcement Agency (the DEA) and state government agencies, as well as by various regulatory agencies in foreign countries where products or product candidates are being manufactured and/or marketed. The Federal Food, Drug and Cosmetic Act, the Controlled Substances Act and other federal statutes and regulations, and similar foreign statutes and regulations, govern or influence the testing, manufacturing, packing, labeling, storing, record keeping, safety, approval, advertising, promotion, sale and distribution of our products. Under these regulations, we may become subject to periodic inspection of our facilities, procedures and operations and/or the testing of our product candidates and products by the FDA, the DEA and other authorities, which conduct periodic inspections to confirm that we are in compliance with all applicable regulations. In addition, the FDA and foreign regulatory agencies conduct pre-approval and post-approval reviews and plant inspections to determine whether our systems and processes are in compliance with cGMP and other regulations. Following such inspections, the FDA or other agency may issue observations, notices, citations and/or warning letters that could cause us to modify certain activities identified during the inspection. To the extent that we successfully commercialize any product, we may also be subject to ongoing FDA obligations and continued regulatory review with respect to manufacturing,

processing, labeling, packaging, distribution, storage, advertising, promotion and recordkeeping for the product. Additionally, we may be required to conduct potentially costly post-approval studies and report adverse events associated with our products to FDA and other regulatory authorities. Unexpected or serious health or safety concerns would result in labeling changes, recalls, market withdrawals or other regulatory actions.

The range of possible sanctions includes, among others, FDA issuance of adverse publicity, product recalls or seizures, fines, total or partial suspension of production and/or distribution, suspension of the FDA s review of product applications, enforcement actions, injunctions, and civil or criminal prosecution. Any such sanctions, if imposed, could have a material adverse effect on our business, operating results, financial condition and cash flows. Under certain circumstances, the FDA also has the authority to revoke previously granted drug approvals. Similar sanctions as detailed above may be available to the FDA under a consent decree, depending upon the actual terms of such decree. If internal compliance programs do not meet regulatory agency standards or if compliance is deemed deficient in any significant way, it could materially harm our business.

## Table of Contents

Moreover, the regulations, policies or guidance of the FDA or other regulatory agencies may change and new or additional statutes or government regulations may be enacted that could prevent or delay regulatory approval of our product candidates or further restrict or regulate post-approval activities. If we are not able to achieve and maintain regulatory compliance, we may not be permitted to market our potential product candidates, which would adversely affect our ability to generate revenue and achieve or maintain profitability.

We face potential product liability exposure and if successful claims are brought against us, we may incur substantial liability.

The clinical use of our product candidates exposes us to the risk of product liability claims. Any side effects, manufacturing defects, misuse or abuse associated with our product candidates could result in injury to a patient or even death. In addition, a liability claim may be brought against us even if our product candidates merely appear to have caused an injury. Product liability claims may be brought against us by consumers, healthcare providers, pharmaceutical companies or others coming into contact with our product candidates, among others.

Regardless of merit or potential outcome, product liability claims against us may result in, among other effects, the inability to commercialize our product candidates, impairment of our business reputation, withdrawal of clinical trial participants and distraction of management s attention from our primary business. If we cannot successfully defend ourselves against product liability claims we could incur substantial liabilities.

### The biomedical industry is highly competitive.

The biomedical industry has an intensely competitive environment that will require an ongoing, extensive search for technological innovations and the ability to market products effectively, including the ability to communicate the effectiveness, safety and value of products to healthcare professionals in private practice, group practices and payers in managed care organizations, group purchasing organizations and Medicare & Medicaid services. We face competition from a number of sources, including large pharmaceutical companies, biotechnology companies, academic institutions, government agencies and private and public research institutions. We are smaller than almost all of our competitors. Most of our competitors have been in business for a longer period of time than us, have a greater number of products on the market and have greater financial and other resources than we do. Furthermore, recent trends in this industry are that large drug companies are consolidating into a smaller number of very large entities, which further concentrates financial, technical and market strength and increases competitive pressure in the industry. If we directly compete with these very large entities for the same markets and/or products, their financial strength could prevent us from capturing a share of those markets. It is possible that developments by our competitors will make any products or technologies that we develop or acquire noncompetitive or obsolete.

If our competitors market and/or develop competing product candidates that are marketed more effectively, approved more quickly or demonstrated to be safer or more effective than our product candidates, then our commercial opportunities may be reduced or eliminated.

The biomedical industry is characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary therapeutics. If we are able to obtain regulatory approval of our product candidates related to our OMS technology or any assets we may acquire in the future, we will face competition from products currently marketed by companies much larger than us that address our targeted indications.

In addition to already marketed products, we also face competition from product candidates that are or could be under development. We expect our product candidates, if approved and commercialized, to compete on the basis of, among other things, product efficacy and safety, time to market, price, patient reimbursement by third-party payors, extent of adverse side effects and convenience of treatment procedures. We may not be able to effectively compete in one or more of these areas. We also may not be able to differentiate any products that we are able to market from those of our competitors or successfully develop or introduce new products that are less costly or offer better results than those of our competitors.

Additionally, our competitors may obtain regulatory approval of their products more rapidly than we are able to or may obtain patent protection or other intellectual property rights that limit or block us from developing or commercializing our product candidates. Our competitors may also develop products that are more effective, more useful, better tolerated, subject to fewer or less severe side effects, more widely prescribed or accepted or less costly than ours and may also be more successful than us in manufacturing and marketing their products. If we are unable to compete effectively with the marketed therapeutics of our competitors or if such competitors are successful in developing products that compete with our potential product candidates that are approved, our business, results of operations, financial condition and prospects may be materially adversely affected.

#### **Table of Contents**

If we fail to comply with federal and state healthcare laws, including fraud and abuse and health information privacy and security laws, we could face substantial penalties and our business, results of operations, financial condition and prospects could be adversely affected.

Even though we do not and will not control referrals of healthcare services or bill directly to third-party payors, certain federal and state healthcare laws and regulations pertaining to fraud and abuse and patients—rights may be applicable to our business. We could be subject to healthcare fraud and abuse and patient privacy regulation by both the federal government and the states in which we conduct our business. To the extent that any product we make is sold in a foreign country, we also may be subject to foreign laws and regulations. If we or our operations are found to be in violation of any of these laws or any other governmental regulations that apply to us, we may be subject to penalties, including civil and criminal penalties, damages, fines, exclusion from participation in U.S. federal or state health care programs, and the curtailment or restructuring of our operations. Any penalties, damages, fines, curtailment or restructuring of our operations could materially adversely affect our ability to operate our business and our financial results. Further, any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management—s attention from the operation of our business. Moreover, achieving and sustaining compliance with applicable federal and state privacy, security and fraud laws may prove costly.

We may engage in strategic transactions that could impact our liquidity, increase our expenses and present significant distractions to our management.

From time to time we may consider engaging in strategic transactions, such as acquisitions of companies, asset purchases and out-licensing or in-licensing of products, product candidates or technologies. Any such transaction may require us to incur non-recurring or other charges, may increase our near and long-term expenditures and may pose significant integration challenges or disrupt our management or business, which could adversely affect our operations and financial results. For example, these transactions may entail numerous operational and financial risks, including, among others, exposure to unknown liabilities, disruption of our business and diversion of our management s time and attention in order to develop acquired products, product candidates or technologies, difficulty and cost in combining the operations and personnel of any acquired businesses with our operations and personnel, and inability to retain key employees of any acquired businesses. Accordingly, although we may not choose to undertake or may not be able to successfully complete any transactions of the nature described above, any transactions that we do complete could have a material adverse effect on our business, results of operations, financial condition and prospects.

Our business and operations would suffer in the event of system failures.

Despite the implementation of security measures, our internal computer systems and those of our current and any future partners, contractors and consultants are vulnerable to damage from cyber-attacks, computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. System failures, accidents or security breaches could cause interruptions in our operations, and could result in a material disruption of our commercialization activities, development programs and our business operations, in addition to possibly requiring substantial expenditures of resources to remedy. The loss of clinical trial data from completed or future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the commercialization of any potential product candidate could be delayed.

If we fail to maintain an effective system of internal controls, we may not be able to accurately report our financial results. As a result, current and potential stockholders could lose confidence in our financial reporting, which would harm our business.

Effective internal controls are necessary for us to provide reliable financial reports. If we cannot provide reliable financial reports, our operating results could be misstated, our reputation may be harmed and the trading price of our stock could be negatively affected. Our controls over financial processes and reporting may not continue to be effective, or we may identify additional material weaknesses or significant deficiencies in our internal controls in the future. Any failure to remediate any future material weaknesses or implement required new or improved controls, or difficulties encountered in their implementation, could harm our operating results, cause us to fail to meet our reporting obligations or result in material misstatements in our financial statements or other public disclosures. Inferior internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our stock.

## Table of Contents

Maintaining compliance with our obligations as a public company may strain our resources and distract management, and if we do not remain compliant our stock price may be adversely affected.

We are required to evaluate our internal control systems in order to allow management to report on our internal controls as required by Section 404 of the Sarbanes-Oxley Act of 2002, and our management is required to attest to the adequacy of our internal controls. Recent SEC pronouncements suggest that in the next several years we may be required to report our financial results using new International Financial Reporting Standards, replacing GAAP, which would require us to make significant investments in training, hiring, consulting and information technology, among other investments. All of these and other reporting requirements and heightened corporate governance obligations that we face, or will face, will further increase the cost to us, perhaps substantially, of remaining compliant with our obligations under the Securities Exchange Act of 1934, as amended (the Exchange Act ) and other applicable laws, including the Sarbanes-Oxley Act and the Dodd-Frank Act of 2010. In order to meet these incremental obligations, we will need to invest in our corporate and accounting infrastructure and systems, and acquire additional services from third party auditors and advisors. As a result of these requirements and investments, we may incur significant additional expenses and may suffer a significant diversion of management s time. There is no guarantee that we will be able to continue to meet these obligations in a timely manner, and we could therefore be subject to sanctions or investigation by regulatory authorities such as the SEC. Any such actions could adversely affect the market price of our common stock, perhaps significantly.

#### Risks Related to our Common Stock

We have never paid dividends on our capital stock, and we do not anticipate paying any cash dividends in the foreseeable future.

The continued operation and expansion of our business will require substantial funding. Investors seeking cash dividends in the foreseeable future should not purchase our common stock. We have paid no cash dividends on any of our capital stock to date and we currently intend to retain our available cash to fund the development and growth of our business. Any determination to pay dividends in the future will be at the discretion of our Board of Directors and will depend upon results of operations, financial condition, contractual restrictions, restrictions imposed by applicable law and other factors our Board of Directors deems relevant. We do not anticipate paying any cash dividends on our common stock in the foreseeable future. Any return to stockholders will therefore be limited to the appreciation of their stock, which may never occur.

If we issue additional shares in the future, our existing stockholders will be diluted.

Our articles of incorporation authorize the issuance of up to 3,200,000,000 shares of common stock with a par value of \$0.0001 per share. In addition to capital raising activities, other possible business and financial uses for our authorized common stock include, without limitation, future stock splits, acquiring other companies, businesses or products in exchange for shares of common stock, issuing shares of our common stock to partners in connection with strategic alliances, attracting and retaining employees by the issuance of additional securities under our various equity compensation plans, or other transactions and corporate purposes that our Board of Directors deems are in the Company s best interest. Additionally, shares of common stock could be used for anti-takeover purposes or to delay or prevent changes in control or management of the Company. We cannot provide assurances that any issuances of common stock will be consummated on favorable terms or at all, that they will enhance stockholder value, or that they will not adversely affect our business or the trading price of our common stock. The issuance of any such shares will reduce the book value per share and may contribute to a reduction in the market price of the outstanding shares of our common stock. If we issue any such additional shares, such issuance will reduce the proportionate ownership and voting power of all current stockholders. Further, such issuance may result in a change of control of our corporation.

Sales of common stock by our stockholders, or the perception that such sales may occur, could depress our stock price.

Sales of our common stock in the public market following this offering could lower the market price of our common stock. Sales may also make it more difficult for us to sell equity securities or equity-related securities in the future at a time and price that our management deems acceptable or at all.

In addition, the market price of our common stock could decline as a result of sales by, or the perceived possibility of sales by, our existing stockholders. Since March 2011, we have completed a number of offerings of our common stock and warrants and as of December 5, 2013, have issued an aggregate of 201,419,600 shares of our common stock, including common stock underlying warrants. Future sales of common stock by significant stockholders, including by those who acquired their shares in our prior offerings or who are affiliates, or the perception that such sales may occur, could depress the price of our common stock.

If outstanding options and warrants to purchase shares of our common stock are exercised, the interests of our stockholders could be diluted.

As of December 5, 2013 in addition to 171,038,526 shares of common stock issued and outstanding, we currently have 9,000,000 shares reserved for issuance under equity compensation plan for vested and unvested stock options. We also have 79,397,574 shares reserved for issuance on the exercise of outstanding warrants as of such date. We may elect to reduce the exercise price of outstanding warrants as a means of providing additional financing to us. The exercise of options and warrants, and the sale of shares underlying such options or warrants, could have an adverse effect on the market for our common stock, including the price that

## Table of Contents

an investor could obtain for their shares. Investors may experience dilution in the net tangible book value of their investment upon the exercise of outstanding options and warrants granted under our stock option plans, and options and warrants that may be granted or issued in the future.

Trading of our stock is restricted by the SEC s penny stock regulations and certain FINRA rules, which may limit a stockholder s ability to buy and sell our common stock.

Our securities are covered by certain penny stock rules, which impose additional sales practice requirements on broker-dealers who sell low-priced securities to persons other than established customers and accredited investors. For transactions covered by these rules, a broker-dealer must make a special suitability determination for the purchaser and have received the purchaser s written consent to the transaction prior to sale, among other things. In addition, the penny stock rules require a broker-dealer, before effecting a transaction in a penny stock not otherwise exempt from the rules, to deliver a standardized risk disclosure document prepared by the SEC that provides information about penny stocks and the nature and level of risks in the penny stock market. The broker-dealer also must provide the customer with current bid and offer quotations for the penny stock, the compensation of the broker-dealer and its salesperson in the transaction, and monthly account statements showing the market value of each penny stock held in the customer s account. The bid and offer quotations, and the broker-dealer and salesperson compensation information, must be given to the customer orally or in writing before effecting the transaction, and must be given to the customer in writing before or with the customer's confirmation. These rules may affect the ability of broker-dealers and holders to sell our common stock and may negatively impact the level of trading activity for our common stock. To the extent our common stock remains subject to the penny stock regulations, such regulations may discourage investor interest in and adversely affect the market liquidity of our common stock.

The Financial Industry Regulatory Authority (known as FINRA) has adopted rules that require that in recommending an investment to a customer, a broker-dealer must have reasonable grounds for believing that the investment is suitable for that customer. Prior to recommending speculative low priced securities to their non-institutional customers, broker-dealers must make reasonable efforts to obtain information about the customer s financial status, tax status, investment objectives and other information. Under interpretations of these rules, FINRA believes that there is a high probability that speculative low priced securities will not be suitable for at least some customers. FINRA requirements make it more difficult for broker-dealers to recommend that their customers buy our common stock, which may limit your ability to buy and sell our stock and have an adverse effect on the market for our shares.

Our common stock is illiquid and the price of our common stock may be negatively impacted by factors which are unrelated to our operations.

Our common stock only recently began quoting on the OTC Markets Group, Inc. s OTCQB tier (OTCQB), and has a limited trading history on that market. Trading of securities quoted on OTCQB is frequently highly volatile, with low trading volume. Since our common stock became available for trading on the OTCQB, we have experienced significant fluctuations in the stock price and trading volume of our common stock. There is no assurance that a sufficient market will develop in our stock, in which case it could be difficult for stockholders to sell their stock. The market price of our common stock could continue to fluctuate substantially.

Factors affecting the trading price of our common stock may include:

• adverse research and development or clinical trial results;

| •                | our inability to obtain additional capital;   |
|------------------|---|
| •<br>by other re | announcement that the FDA denied our request to approve our products for commercialization in the United States, or similar denial egulatory bodies which make independent decisions outside the United States; |
| •                | potential negative market reaction to the terms or volume of any issuance of shares of our stock to new investors or service providers;   |
| • our stockh     | sales of substantial amounts of our common stock, or the perception that substantial amounts of our common stock will be sold, by solders in the public market;   |
| •                | declining working capital to fund operations, or other signs of apparent financial uncertainty;   |
| •                | significant advances made by competitors that adversely affect our potential market position; and   |
| •                | the loss of key personnel and the inability to attract and retain additional highly-skilled personnel.  |
|                  | 14  |
|                  |   |

## Table of Contents

Additionally, our clinical trials will be open-ended and, therefore, there is the possibility that information regarding the success (or setbacks) of our clinical trials may be obtained by the public prior to a formal announcement by us.

#### SPECIAL NOTICE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains and incorporates by reference forward-looking statements. We intend these forward-looking statements to be covered by the safe harbor provisions for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995. Words such as anticipate, estimate, expect, project, intend, may, plan, predict, believe, should and similar words or expressions are intended forward-looking statements. Investors should not place undue reliance on forward-looking statements. All forward-looking statements reflect the present expectation of future events of our management and are subject to known and unknown risks, uncertainties and assumptions, including but not limited to the risks identified in the Risk Factors contained in or incorporated by reference in this prospectus, that could cause actual results to differ materially from those described in any forward-looking statements. Given these risks, uncertainties and other important factors, you should not place undue reliance on these forward-looking statements. You should carefully read both this prospectus, the applicable prospectus supplement and any related free writing prospectus, together with the information incorporated herein by reference as described under the heading. Where You Can Find Additional Information, completely and with the understanding that our actual future results may be materially different from what we expect. Except as required by law, we undertake no obligation to update forward-looking statements.

These forward-looking statements represent our estimates and assumptions only as of the date made. We undertake no duty to update these forward-looking statements after the date of this prospectus, except as required by law, even though our situation may change in the future. We qualify all of our forward-looking statements by these cautionary statements.

## USE OF PROCEEDS

We may receive up to a total of \$8,363,600 in proceeds upon exercise of the warrants. We expect to use the net proceeds from the exercise of the warrants for capital expenditures, working capital and other general corporate purposes. However, we are unable to predict the timing or amount of potential warrant exercises. The warrants may expire unexercised and we may never receive any proceeds.

#### **DESCRIPTION OF SECURITIES**

### **Authorized Capital Stock**

On March 1, 2011, we effected a 32 for one forward stock split of our common stock. As a result, our authorized capital has increased from 100,000,000 shares of common stock at \$0.001 par value to 3,200,000,000 shares of common stock at \$0.0001 par value. Following the effectiveness of the forward split, our outstanding capital stock increased from 2,140,000 shares of common stock to 68,480,000 shares of common stock. On February 28, 2011, the Company s former majority shareholders and directors, Ronald Dela Cruz and David Marby, entered into an agreement to sell certain of the shares held by them to Mr. Punit Dhillon, Dr. Avtar Dhillon and certain other purchasers in a private transaction. The Company was not a party to this agreement. As a condition of their acquisition of such shares from Mr. Dela Cruz and

Mr. Marby, the purchasers of such shares required Mr. Dela Cruz and Mr. Marby to cancel and return to the Company the remaining shares of the Company s common stock held by them, for no consideration. On March 22, 2011, 17,280,000 shares of common stock held by Mr. Dela Cruz and Mr. Marby were returned to the Company for no consideration. The shares were not retired and are available for future issuance.

|  | As of December 5 | . 2013. | there | were issued | and | outstanding |
|--|------------------|---------|-------|-------------|-----|-------------|
|--|------------------|---------|-------|-------------|-----|-------------|

- 171,038,526 shares of common stock;
- Options to purchase 4,978,956 shares of common stock at exercise prices ranging from \$0.18 to \$0.42 per share, issued to employees, directors, and consultants under the 2011 Plan;
- Warrants to purchase 1,456,000 shares of common stock at a price of \$1.00 per share, issued as part of units issued in the March 2011 Private Placement;

15

## Table of Contents

- Series A Warrants to purchase 4,240,000 shares at an exercise price of \$1.20 per share issued to two investors, two placement agents and two designees of a placement agent in connection with the June 2011 Private Placement;
- Warrants to purchase 30,697,000 and 1,550,000 shares of common stock at an exercise price of \$0.35 and \$0.3125 per share, respectively, issued to the investors, and the placement agent designees and the financial advisor in connection with our offering in March 2012;
- Warrants to purchase 1,000,000 and 3,000,000 shares of common stock with an exercise price of \$1.20 and \$1.00 per share issued to Inovio on September 28, 2011 and March 24, 2012, respectively;
- Warrants to purchase 9,728,974 and 1,440,000 shares of common stock at an exercise price of \$0.26 and \$0.3125 per share, respectively, issued to the investors, and the placement agent designees and the financial advisor in connection with the December 2012 Public Offering; and
- Warrants to purchase 23,896,000 and 2,389,600 shares of common stock at an exercise price of \$0.35 and \$0.3125 per share, respectively, issued to investors, and the placement agent designees and the financial advisor in connection with the September 2013 Public Offering.

## **Description of Common Stock**

We are authorized to issue 3,200,000,000 shares of common stock. The holders of our common stock are entitled to one vote per share on all matters submitted to a vote of the stockholders, including the election of directors. Generally, all matters to be voted on by stockholders must be approved by a majority of the votes entitled to be cast by all shares of common stock that are present in person or represented by proxy, subject to any voting rights granted to holders of any preferred stock that we may issue. Except as otherwise provided by law, and subject to any voting rights granted to holders of any preferred stock that we may issue, amendments to our articles of incorporation generally must be approved by a majority of the votes entitled to be cast by all outstanding shares of common stock. Our articles of incorporation do not provide for cumulative voting in the election of directors. Subject to any preferential rights of any outstanding series of preferred stock created by our Board of Directors from time to time, the holders of our common stock will be entitled to cash dividends as may be declared, if any, by our Board of Directors from funds available. Subject to any preferential rights of any outstanding series of preferred stock that we may issue, upon liquidation, dissolution or winding up of our company, the holders of our common stock will be entitled to receive pro rata all assets available for distribution to the holders.

Our common stock is traded on the OTCQB Marketplace under the symbol ONCS .

## **Description of Warrants**

#### Warrants Issued in the March 2011 Private Placement

In March 2011 we sold 1,456,000 units to three investors pursuant to an exemption from registration under Regulation S under the Securities Act. Each unit consisted of one share of our common stock and one share purchase warrant entitling the holder to acquire one share of our common stock at an exercise price of \$1.00 per share. We are not obligated to register any of the shares issued or issuable upon exercise of the warrants issued in such private placement.

The warrants issued in the March 2011 Private Placement have a term of five years. They provide for the adjustment of the exercise price and number of shares issuable upon exercise of the warrants in connection with a stock split or reverse stock split of the shares of our common stock, such that the number of shares issuable upon exercise of the warrant is adjusted in proportion to the change in the number of outstanding shares of common stock as a result of the event. Upon a capital reorganization or reclassification, or merger of the Company with or into any other company, each warrant will confer the right to purchase the number of shares or other securities of the Company (or of the company resulting from such transaction) which the holder would have been entitled to if the warrant holder had been a stockholder at the time of such transaction.

#### Warrants Issued in the June 2011 Private Placement

On June 24, 2011, the two investors in the June 2011 Private Placement were each issued a Series A Warrants, a Series B Warrant and a Series C Warrant, with each such warrant exercisable for up to 2,000,000 shares of our common stock. The Series A Warrants have an exercise price of \$1.20 per share and expire on June 24, 2016. The Series B Warrants and the Series C Warrants expired in February 2012 and are no longer outstanding. In addition, we issued warrants to purchase 144,000 shares of our common stock to Rodman & Renshaw, LLC or its designees and 96,000 shares of our common stock to Roth Capital Partners, LLC pursuant to the terms of a Placement Agent Agreement entered into in connection with the June 2011 Private Placement. The warrants are exercisable for \$1.20 per share for five years following their issuance and their terms are otherwise similar to those of the Series A Warrants.

## Table of Contents

The Series A Warrants provide for the adjustment of the exercise price and number of shares issuable upon exercise of the warrants under the following circumstances, as more fully set forth in the Series A Warrants:

| Stock dividend or distribution; forward or reverse stock split of our common stock:                                   | Number of shares issuable upon exercise of the Warrant is adjusted in proportion to the change in the number of outstanding shares of common stock as a result of the event.   |
|---|--|
| Subdivision or combination of outstanding shares of common stock:   | Exercise price is further adjusted to the lower of (a) the exercise price as adjusted and (b) the average of the volume weighted average price (VWAP) of the common stock for the five trading days immediately following the date on which the applicable subdivision or combination becomes effective.   |
| Distribution of dividends, rights, warrants or other assets to all holders of common stock and excluding the Warrant: | The exercise price is adjusted by multiplying the then-effective exercise price by a fraction, of which the denominator would be the VWAP of the common stock as of such distribution and the numerator would be such VWAP less the then per share fair market value of the portion of the dividends or other assets so distributed applicable to one outstanding share of our common stock. |

In addition, upon the reclassification, reorganization or recapitalization of our common stock, our merger or consolidation with or into another entity, the consummation of a stock purchase agreement whereby more than 50% of the outstanding shares of the common stock are acquired by another person or entity, or a sale or other disposition of substantially all of our assets, the holder of each of the Series A Warrants is entitled to receive the number of shares of our common stock or the common stock of our successor or acquirer that such holder would have been entitled to receive immediately prior to such transaction, and the exercise price for such shares shall be adjusted based on the amount of any alternate consideration receivable as a result of such transaction by a holder of the number of shares of common stock for which the warrant is exercisable immediately prior to such transaction. The holder of the warrant may also require us or any successor entity to purchase the warrant from the holder by paying to the holder an amount of cash equal to the Black-Scholes value of the remaining unexercised portion of the warrant on the date of the consummation of the transaction.

The Series A Warrants also contain adjustment price-based anti-dilution provisions, which are generally triggered upon our issuance of common stock at a lower effective price than the applicable warrant s exercise price (subject to a floor price of \$0.50 per share). On March 28, 2012, the exercise price of the Series A Warrants reset to \$0.50 upon the closing of the March 2012 Public Offering.

### Warrants Issued in the March 2012 Public Offering

On March 28, 2012, we issued one warrant to purchase one share of common stock for each share of common stock purchased by the investors participating in the March 2012 Public Offering, or warrants to purchase 31,000,000 shares. Each warrant has an exercise price of \$0.35 per share and is subject to a five year term.

In addition, we issued warrants to purchase 1,085,000 shares of our common stock to Rodman & Renshaw, LLC or its designees and 465,000 shares of our common stock to Roth Capital Partners, LLC pursuant to the terms of a Placement Agent Agreement entered into in connection with the March 2012 Public Offering. The warrants have an exercise price of \$0.3125 per share and are subject to a five year term. These

warrants have terms similar to those issued to investors in the March 2012 Public Offering.

The exercise of the warrants is subject to certain exercise limitations, such that the holder may not exercise the warrants if such exercise results in the holder becoming the beneficial owner of more than 4.99% of the number of shares of common stock outstanding immediately after giving effect to such exercise, provided that upon at least 61 days prior notice to us, the holder may increase or decrease such limitation up to a maximum of 9.99% of the number of shares of common stock outstanding.

17

## Table of Contents

The warrants provide for the proportionate adjustment of the number of shares issuable upon exercise of the warrants in connection with stock dividends and splits provided that the aggregate exercise price of the warrant remains unchanged. In addition, if we grant, issue or sell any common stock equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of common stock (and not the holder of the warrant), then the warrant holder will be entitled to acquire, upon the terms applicable to such purchase rights, the aggregate purchase rights which the holder could have acquired if the holder had held the number of shares of common stock acquirable upon complete exercise of the warrant. If we declare or make any dividend or other distribution of our assets to holders of our common stock, the warrant holder shall be entitled to participate in the distribution to the same extent that the holder would have participated therein if the holder had held the number of shares of common stock acquirable upon complete exercise of the warrant. Other than as described above, the warrants do not contain anti-dilution provisions.

Upon the reclassification, reorganization or recapitalization of our common stock, our merger or consolidation with or into another entity, the consummation of a stock purchase agreement whereby more than 50% of the outstanding shares of the common stock are acquired by another person or entity, or a sale or other disposition of substantially all of our assets, the holder of each of the warrants is entitled to receive the number of shares of our common stock or the common stock of our successor or acquirer that such holder would have been entitled to receive immediately prior to such transaction, and the exercise price for such shares shall be adjusted based on the amount of any alternate consideration receivable as a result of such transaction by a holder of the number of shares of common stock for which the warrant is exercisable immediately prior to such transaction. The holder of the warrant may also require us or any successor entity to purchase the warrant from the holder by paying to the holder an amount of cash equal to the Black Scholes value of the remaining unexercised portion of the warrant on the date of the consummation of the transaction.

### Warrants Issued in the December 2012 Public Offering

On December 17, 2012, we issued a warrant to purchase up to one half of a share of common stock for each share of common stock purchased by the investors participating in the December 2012 Public Offering, or warrants to purchase 14,400,000 shares. The warrants are exercisable for \$0.26 per share and are subject to a four year term. In addition, pursuant to our placement agent agreement for the December 2012 Public Offering, we issued warrants to purchase (i) 720,000 shares of our common stock to our lead placement agent, Dawson James Securities, Inc. or its designees and (ii) 360,000 shares of our common stock to each of our financial advisors in this offering, Noble International Investments, Inc. and Burrill, LLC. The warrants are exercisable for \$0.3125 per share, are subject to a five year term and their terms are otherwise similar to those issued to investors in the December 2012 Public Offering.

The exercise of the warrants is subject to certain exercise limitations, such that the holder may not exercise the warrants if such exercise results in the holder becoming the beneficial owner of more than 4.99% of the number of shares of common stock outstanding immediately after giving effect to such exercise, provided that upon at least 61 days prior notice to us, the holder may increase or decrease such limitation up to a maximum of 9.99% of the number of shares of common stock outstanding.

The warrants provide for the adjustment of the exercise price and number of shares issuable upon exercise of the warrants in connection with stock dividends and splits, such that the number of shares issuable upon exercise of the warrant is adjusted in proportion to the change in the number of the number of shares outstanding and the aggregate exercise price of the warrant remains unchanged. In addition, if we grant, issue or sell any common stock equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of common stock (and not the holder of the warrant), then the warrant holder will be entitled to acquire, upon the terms applicable to such purchase rights, the aggregate purchase rights which the holder could have acquired if the holder had held the number of shares of common stock acquirable upon complete exercise of the warrant. If we declare or make any dividend or other distribution of our assets to holders of our common stock, the warrant holder shall be entitled to participate in the distribution to the same extent that the holder would have participated therein if the holder had held the number of shares of common stock acquirable upon complete exercise of the warrant. Other than as described

above, the warrants do not contain anti-dilution provisions.

Upon the reclassification, reorganization or recapitalization of our common stock, our merger or consolidation with or into another entity, the consummation of a stock purchase agreement whereby more than 50% of the outstanding shares of the common stock are acquired by another person or entity, or a sale or other disposition of substantially all of our assets, the holder of each of the warrants is entitled to receive the number of shares of our common stock or the common stock of our successor or acquirer that such holder would have been entitled to receive immediately prior to such transaction, and the exercise price for such shares shall be adjusted based on the amount of any alternate consideration receivable as a result of such transaction by a holder of the number of shares of common stock for which the warrant is exercisable immediately prior to such transaction. The holder of the warrant may also require us or any successor entity to purchase the warrant from the holder by paying to the holder an amount of cash equal to the Black Scholes value of the remaining unexercised portion of the warrant on the date of the consummation of the transaction.

## Table of Contents

## Warrants Issued in the September 2013 Public Offering and Registered in this Registration Statement

On September 18, 2013, we issued a warrant to purchase up to one half of a share of common stock for each share of common stock purchased by the investors participating in the September 2013 Public Offering, or warrants to purchase 23,896,000 shares. The warrants are exercisable for \$0.35 per share and are subject to a four year term. In addition, pursuant to our placement agent agreement for the September 2013 Public Offering, we issued warrants to purchase (i) 1,911,680 shares of our common stock to our lead placement agent, H.C. Wainwright & Co., LLC or its designees and (ii) 477,920 shares of our common stock to our financial advisor in this offering, Maxim Group LLC. The warrants are exercisable for \$0.3125 per share, are subject to a five year term and their terms are otherwise similar to those issued to investors in the September 2013 Public Offering.

The exercise of the warrants is subject to certain exercise limitations, such that the holder may not exercise the warrants if such exercise results in the holder becoming the beneficial owner of more than 4.99% of the number of shares of common stock outstanding immediately after giving effect to such exercise, provided that upon at least 61 days prior notice to us, the holder may increase or decrease such limitation up to a maximum of 9.99% of the number of shares of common stock outstanding.

The warrants provide for the adjustment of the exercise price and number of shares issuable upon exercise of the warrants in connection with stock dividends and splits, such that the number of shares issuable upon exercise of the warrant is adjusted in proportion to the change in the number of shares outstanding and the aggregate exercise price of the warrant remains unchanged. In addition, if we grant, issue or sell any common stock equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of common stock (and not the holder of the warrant), then the warrant holder will be entitled to acquire, upon the terms applicable to such purchase rights, the aggregate purchase rights which the holder could have acquired if the holder had held the number of shares of common stock acquirable upon complete exercise of the warrant. If we declare or make any dividend or other distribution of our assets to holders of our common stock, the warrant holder shall be entitled to participate in the distribution to the same extent that the holder would have participated therein if the holder had held the number of shares of common stock acquirable upon complete exercise of the warrant. Other than as described above, the warrants do not contain anti-dilution provisions.

Upon the reclassification, reorganization or recapitalization of our common stock, our merger or consolidation with or into another entity, the consummation of a stock purchase agreement whereby more than 50% of the outstanding shares of the common stock are acquired by another person or entity, or a sale or other disposition of substantially all of our assets, the holder of each of the warrants is entitled to receive the number of shares of our common stock or the common stock of our successor or acquirer that such holder would have been entitled to receive immediately prior to such transaction, and the exercise price for such shares shall be adjusted based on the amount of any alternate consideration receivable as a result of such transaction by a holder of the number of shares of common stock for which the warrant is exercisable immediately prior to such transaction. The holder of the warrant may also require us or any successor entity to purchase the warrant from the holder by paying to the holder an amount of cash equal to the Black Scholes value of the remaining unexercised portion of the warrant on the date of the consummation of the transaction.

#### Inovio Warrants

In September 2011, in consideration for an amendment to the Asset Purchase Agreement with Inovio, we issued to Inovio a warrant to purchase 1,000,000 shares of our common stock. The warrant is exercisable for \$1.20 per share and is subject to a five year term from the date of issuance. The warrant also contains a mandatory exercise provision allowing us to request the exercise of the warrant in whole provided that our daily market price (as that term is defined in the warrant) is equal to or greater than \$2.40 for 20 consecutive trading days.

In March 2012, in consideration for a second amendment to the Asset Purchase Agreement, we issued to Inovio a warrant to purchase 3,000,000 shares of our common stock at an exercise price of \$1.00 per share. The warrant contains the same terms as the previous warrant issued to Inovio.

The warrants issued to Inovio provide for the adjustment of the exercise price and number of shares issuable upon exercise of the warrants in connection with the payment of a dividend or distribution on common stock in shares of common stock or a stock split or reverse stock split of the shares of our common stock, such that the number of shares issuable upon exercise of the warrant is adjusted in proportion to the change in the number of outstanding shares of common stock as a result of the event. In addition, the exercise price and number of shares issuable upon exercise of the warrants is subject to adjustment upon the distribution or dividend to our common stockholders of cash, property, or warrants to purchase common stock.

## Table of Contents

Upon the acquisition by an individual or legal entity or group of more than one-half of the voting rights or equity interests in the Company; or the sale, conveyance, or other disposition of all or substantially all of the assets, property or business of the Company or the merger into or consolidation with any other corporation (other than a wholly owned subsidiary corporation) or effectuation of any transaction or series of related transactions where holders of the Company s voting securities prior to such transaction or series of transactions fail to continue to hold at least 50% of the voting power of the Company, the holder of the warrant has the right to receive, for each share of stock that would have been issuable upon exercise of the warrant immediately prior to the occurrence of such change of control, the number of shares of common stock of the successor or acquiring corporation that the holder would have received if the holder had exercised immediately prior to the change of control, and any additional consideration receivable as a result of such change of control by a holder of the number of shares of common stock for which the warrant is exercisable immediately prior to such change of control.

## Liability and Indemnification of Directors and Officers

Nevada Revised Statutes provide us with the power to indemnify any of our directors and officers. The director or officer must have conducted himself/herself in good faith and reasonably believe that his/her conduct was in, or not opposed to, our best interests. In a criminal action, the director or officer must not have had reasonable cause to believe his/her conduct was unlawful.

Under applicable sections of the Nevada Revised Statutes, advances for expenses may be made by agreement if the director or officer affirms in writing that he/she believes he/she has met the standards and will personally repay the expenses if it is determined the officer or director did not meet the standards.

Our bylaws include an indemnification provision under which we must indemnify any of our directors or officers, or any of our former directors or officers, to the full extent permitted by law. If Section 2115 of the California Corporations Code is applicable to us, certain laws of California relating to the indemnification of directors, officer and others also will govern.

At present, there is no pending litigation or proceeding involving any of our directors or officers regarding which indemnification is sought, nor are we aware of any threatened litigation that may result in claims for indemnification. We also maintain insurance policies that indemnify our directors and officers against various liabilities, including liabilities arising under the Securities Act, that might be incurred by any director or officer in his or her capacity as such.

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 informed that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event a claim for indemnification against such liabilities (other than payment by us for expenses incurred or paid by a director, officer or controlling person of ours in successful defense of any action, suit, or proceeding) is asserted by a director, officer or controlling person in connection with the securities being registered, we will, unless in the opinion of our counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction, the question of whether such indemnification by it is against public policy in the Securities Act and will be governed by the final adjudication of such issue.

Some features of the Nevada Revised Statutes, which are further described below, may have the effect of deterring third parties from making takeover bids for control of us or may be used to hinder or delay a takeover bid. This would decrease the chance that our stockholders would realize a premium over market price for their shares of common stock as a result of a takeover bid.

### Acquisition of Controlling Interest

The Nevada Revised Statutes contain provisions governing acquisition of a controlling interest of a Nevada corporation. These provisions provide generally that any person or entity that acquires a certain percentage of the outstanding voting shares of a Nevada corporation may be denied voting rights with respect to the acquired shares, unless certain criteria are satisfied. Our Amended and Restated Bylaws provide that these provisions will not apply to us or to any existing or future stockholder or stockholders.

### Combination with Interested Stockholder

The Nevada Revised Statutes contain provisions governing the combination of a Nevada corporation that has 200 or more stockholders of record with an interested stockholder. These provisions may have the effect of delaying or making it more difficult to affect a change in control of our company.

A corporation affected by these provisions may not engage in a combination within three years after the interested stockholder acquires his, her or its shares unless the combination or purchase is approved by the board of directors before the interested stockholder acquired such shares. Generally, if approval is not obtained, then after the expiration of the three-year period, the business combination may be consummated with the approval of the board of directors before the person became an interested

## Table of Contents

stockholder or a majority of the voting power held by disinterested stockholders, or if the consideration to be received per share by disinterested stockholders is at least equal to the highest of:

- the highest price per share paid by the interested stockholder within the three years immediately preceding the date of the announcement of the combination or within three years immediately before, or in, the transaction in which he, she or it became an interested stockholder, whichever is higher;
- the market value per share on the date of announcement of the combination or the date the person became an interested stockholder, whichever is higher; or
- if higher for the holders of preferred stock, the highest liquidation value of the preferred stock, if any.

Generally, these provisions define an interested stockholder as a person who is the beneficial owner, directly or indirectly of 10% or more of the voting power of the outstanding voting shares of a corporation, and define combination to include any merger or consolidation with an interested stockholder, or any sale, lease, exchange, mortgage, pledge, transfer or other disposition, in one transaction or a series of transactions with an interested stockholder of assets of the corporation having:

- an aggregate market value equal to 5% or more of the aggregate market value of the assets of the corporation;
- an aggregate market value equal to 5% or more of the aggregate market value of all outstanding shares of the corporation; or
- representing 10% or more of the earning power or net income of the corporation.

## Articles of Incorporation and Bylaws

There are no provisions in our articles of incorporation or our bylaws that would delay, defer or prevent a change in control of our company and that would operate only with respect to an extraordinary corporate transaction involving our company or any of our subsidiaries, such as merger, reorganization, tender offer, sale or transfer of substantially all of its assets, or liquidation.

## **Transfer Agent**

The transfer agent for our common stock is Nevada Agency and Transfer Company. The transfer agent address is 50 West Liberty Street, Suite 880, Reno, Nevada 89501.

### PLAN OF DISTRIBUTION

The shares of common stock underlying the warrants are being offered directly by the Company, without an underwriter, and the holders of such warrants may purchase the shares of common stock directly from the Company by exercising their outstanding warrants.

### LEGAL MATTERS

The validity of the common stock being offered hereby has been passed upon by McDonald Carano Wilson LLP, Reno, Nevada.

#### **EXPERTS**

The consolidated financial statements of OncoSec Medical Incorporated appearing in the Company s Annual Report on Form 10-K for the fiscal year ended July 31, 2013, filed with the SEC on September 27, 2013, have been audited by Mayer Hoffman McCann P.C., an independent registered public accounting firm, as stated in its report therein, and are incorporated by reference. Such audited consolidated financial statements are incorporated hereby by reference in reliance upon such report of such firm given upon its authority as experts in accounting and auditing.

21

## Table of Contents

#### INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to incorporate by reference the information we file with them. This means that we can disclose important information to you in this prospectus by referring you to those documents. These incorporated documents contain important business and financial information about us that is not included in or delivered with this prospectus. The information incorporated by reference is considered to be part of this prospectus, and later information filed with the SEC will update and supersede this information.

We incorporate by reference the documents listed below as well as any future filings made with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act from the date of the initial registration statement and prior to the effectiveness of this registration statement, and any filings made after the date of this prospectus until we sell all of the securities under this prospectus, except that we do not incorporate any document or portion of a document that is furnished to the SEC, but not deemed filed. The following documents filed with the SEC are incorporated by reference in this prospectus:

- our Annual Report on Form 10-K for the fiscal year ended July 31, 2013 filed with the SEC on September 27, 2013; and
- the description of our common stock contained in our Registration Statement on Form 8-A filed with the SEC on March 31, 2011, including any amendments or reports filed for the purpose of updating such description.

We will provide without charge to each person, including any beneficial owner, to whom a prospectus is delivered, on written or oral request of that person, a copy of any or all of the documents we are incorporating by reference into this prospectus, other than exhibits to those documents unless such exhibits are specifically incorporated by reference into those documents. Such written requests should be addressed to:

OncoSec Medical Incorporated

9810 Summers Ridge Road, Suite 110

San Diego, California 92121

Attention: Investor Relations

You may also make such requests by contacting us at (855) 662-6732.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports and proxy statements and other information with the SEC. You may read and copy any document that we file at the SEC s Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. Our SEC filings are also available on the SEC s web site at http://www.sec.gov. Copies of certain information filed by us with the SEC are also available on our web site at http://www.oncosec.com. We have not incorporated by reference into this prospectus the information on our website, and you should not consider it to be a part of this document.