

Celsion CORP  
Form 10-K  
March 12, 2015

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**UNITED STATES**

**SECURITIES AND EXCHANGE COMMISSION**

**WASHINGTON, D.C. 20549**

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**FORM 10-K**

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**(Mark One)**

**ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

**For the fiscal year ended December 31, 2014**

**OR**

**TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

**For the transition period from \_\_\_\_\_ to \_\_\_\_\_**

**Commission file number 001-15911**

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**CELSION CORPORATION**

**(Exact Name of Registrant as Specified in Its Charter)**

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**DELAWARE**  
**(State or Other Jurisdiction of Incorporation or Organization)**

**52-1256615**  
**(I.R.S. Employer Identification No.)**

**997 LENOX DRIVE, SUITE 100**

**08648**

**LAWRENCEVILLE, NJ**

**(Address of Principal Executive Offices)**

**(Zip Code)**

**(609) 896-9100**

**Registrant's Telephone Number, Including Area Code**

**Securities registered pursuant to Section 12(b) of the Act:**

**Title of Each Class**

**COMMON STOCK, PAR VALUE \$0.01 PER SHARE**

**Name of Each Exchange on Which Registered**

**NASDAQ CAPITAL MARKET**

**Securities registered pursuant to Section 12(g) of the Act:**

**None**

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Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the Registrant has submitted electronically and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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

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

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Securities Exchange Act of 1934). Yes No

As of June 30, 2014, the aggregate market value of the common stock held by non-affiliates of the Registrant was approximately \$68,261,264 based on the closing sale price for the Registrant's common stock on that date as reported by The NASDAQ Capital Market. For purposes of this calculation, shares of common stock held by directors and

officers of the Registrant at June 30, 2014 were excluded. This determination of executive officers and directors as affiliates is not necessarily a conclusive determination for any other purpose.

As of March 11, 2015, 19,984,703 shares of the Registrant's common stock were issued and outstanding.

**DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the Registrant's definitive Proxy Statement to be filed for its 2015 Annual Meeting of Stockholders are incorporated by reference into Part III hereof. Such Proxy Statement will be filed with the Securities and Exchange Commission within 120 days of the end of the fiscal year covered by this Annual Report on Form 10-K.

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## PART I

### ITEM 1. BUSINESS

#### FORWARD-LOOKING STATEMENTS

*Certain of the statements contained in this Annual Report on Form 10-K are forward-looking and constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. In addition, from time to time we may publish forward-looking statements relating to such matters as anticipated financial performance, business prospects, technological developments, product pipelines, clinical trials and research and development activities, the adequacy of capital reserves and anticipated operating results and cash expenditures, current and potential collaborations, strategic alternatives and other aspects of our present and future business operations and similar matters that also constitute such forward-looking statements. These statements involve known and unknown risks, uncertainties, and other factors that may cause our or our industry's actual results, levels of activity, performance, or achievements to be materially different from any future results, levels of activity, performance, or achievements expressed or implied by such forward-looking statements. Such factors include, among other things, unforeseen changes in the course of research and development activities and in clinical trials; possible changes in cost, timing and progress of development, preclinical studies, clinical trials and regulatory submissions; our or our collaborator's ability to obtain and maintain regulatory approval of any of our product candidates; possible changes in capital structure, financial condition, future working capital needs and other financial items; changes in approaches to medical treatment; introduction of new products by others; success or failure of our current or future collaboration arrangements, risks and uncertainties associated with possible acquisitions of other technologies, assets or businesses; our ability to obtain additional funds for our operations; our ability to obtain and maintain intellectual property protection for our technologies and product candidates and our ability to operate our business without infringing the intellectual property rights of others; our reliance on third parties to conduct preclinical studies or clinical trials; the rate and degree of market acceptance of any approved product candidates; possible actions by customers, suppliers, strategic partners, potential strategic partners, competitors and regulatory authorities; compliance with listing standards of The NASDAQ Capital Market; and those listed under "Risk Factors" below and elsewhere in this Annual Report on Form 10-K. In some cases, you can identify forward-looking statements by terminology such as "expect," "anticipate," "estimate," "plan," "believe," "could," "intend," "predict," "may," "should," "will," "would" and words of similar import regarding the Company's expectations. Forward-looking statements are only predictions. Actual events or results may differ materially. Although we believe that our expectations are based on reasonable assumptions within the bounds of our knowledge of our industry, business and operations, we cannot guarantee that actual results will not differ materially from our expectations. In evaluating such forward-looking statements, you should specifically consider various factors, including the risks outlined under "Risk Factors." The discussion of risks and uncertainties set forth in this Annual Report on Form 10-K is not necessarily a complete or exhaustive list of all risks facing the Company at any particular point in time. We operate in a highly competitive, highly regulated and rapidly changing environment and our business is in a state of evolution. Therefore, it is likely that new risks will emerge, and that the nature and elements of existing risks will change, over time. It is not possible for management to predict all such risk factors or changes therein, or to assess either the impact of all such risk factors on our business or the extent to which any individual risk factor, combination of factors, or new or altered factors, may cause results to differ materially from those contained in any*

*forward-looking statement. Except as required by law, we assume no obligation to revise or update any forward-looking statement that may be made from time to time by us or on our behalf for any reason, even if new information becomes available in the future.*

*Unless the context requires otherwise or unless otherwise noted, all references in this Annual Report on Form 10-K to “Celsion” “the Company”, “we”, “us”, or “our” are to Celsion Corporation, a Delaware corporation and its wholly owned subsidiary, CLSN Laboratories, Inc., also a Delaware Corporation.*

## **Trademarks**

The Celsion Corporation (“Celsion” or “the Company”) brand and product names, including but not limited to Celsion®, ThermoDox®, EGEN®, TheraPlas™ and TheraSilence™ contained in this document are trademarks, registered trademarks or service marks of Celsion Corporation or its subsidiary in the United States (U.S.) and certain other countries. This document also contains references to trademarks and service marks of other companies that are the property of their respective owners.

## OVERVIEW

Celsion is a fully-integrated oncology drug development company focused on developing a portfolio of innovative cancer treatments, including directed chemotherapies, immunotherapies and RNA- or DNA-based therapies. Our lead program is ThermoDox®, a proprietary heat-activated liposomal encapsulation of doxorubicin, currently in a Phase III clinical trial for the treatment of primary liver cancer (the OPTIMA Study) and a Phase II clinical trial for the treatment of recurrent chest wall breast cancer (the DIGNITY Study). Our pipeline also includes GEN-1 (formerly known as EGEN-001), a DNA-based immunotherapy for the localized treatment of ovarian and brain cancers. We have three platform technologies for the development of treatments for those suffering with difficult-to-treat forms of cancer, novel nucleic acid-based immunotherapies and other anti-cancer DNA or RNA therapies, including TheraPlas™ and TheraSilence™. We are working to develop and commercialize more efficient, effective and targeted oncology therapies based on our technologies, with the goal to develop novel therapeutics that maximize efficacy while minimizing side-effects common to cancer treatments.

Our lead product ThermoDox® is being evaluated in a Phase III clinical trial for primary liver cancer (the OPTIMA study) starting in the first half of 2014 and a Phase II clinical trial for recurrent chest wall breast cancer (the DIGNITY Study). ThermoDox® is a liposomal encapsulation of doxorubicin, an approved and frequently used oncology drug for the treatment of a wide range of cancers. Localized heat at mild hyperthermia temperatures (greater than 39.5° Celsius) releases the encapsulated doxorubicin from the liposome enabling high concentrations of doxorubicin to be deposited preferentially in and around the targeted tumor.

On January 31, 2013, we announced that ThermoDox® in combination with radio frequency ablation (RFA) did not meet the primary endpoint of Progression Free Survival (PFS) for the 701 patient clinical trial in patients with hepatocellular carcinoma (HCC), also known as primary liver cancer (the HEAT Study). Specifically, we determined, after conferring with the HEAT Study independent Data Monitoring Committee (iDMC), that the HEAT study did not meet the goal of demonstrating persuasive evidence of clinical effectiveness that could form the basis for regulatory approval. In the trial, ThermoDox® was well-tolerated with no unexpected serious adverse events. Following the announcement of the HEAT Study results, we continue to follow patients for overall survival (OS), the secondary endpoint of the HEAT Study, on a quarterly basis. We have conducted a comprehensive analysis of the data from the HEAT Study to assess the future strategic value of ThermoDox®. As part of this analysis, we also evaluated our product pipeline and research and development priorities. In April 2013, we announced the deferral of expenses associated with the Company's Phase II study of ThermoDox® in combination with RFA for the treatment of colorectal liver metastases (The ABLATE Study) until such time as the Company finalizes its plans for the continuation of its development program with ThermoDox® in HCC.

The data from the HEAT Study post-hoc analysis suggest that ThermoDox® may substantially improve overall survival, when compared to the control group, in patients if their lesions undergo a 45 minute RFA procedure standardized for a lesion greater than 3 cm in diameter. Data from seven OS sweeps have been conducted since the top line PFS data from the HEAT Study were announced in January 2013, with each data set showing progressive improvement in statistical significance. The most recent post-hoc OS analysis data from the HEAT Study (as of

January 15, 2015) announced in February 2015 demonstrated that in a large, well bounded, subgroup of patients (n=285, 41% of the study patients), the combination of ThermoDox<sup>®</sup> and standardized RFA provided a 59% improvement in OS compared to optimized RFA alone. The Hazard Ratio at this latest quarterly OS analysis is 0.628 (95% CI 0.420 - 0.939) with a p-value of 0.02. These data continue to strongly suggest that ThermoDox<sup>®</sup> may significantly improve overall survival compared to a RFA control in patients whose lesions undergo optimized RFA treatment for 45 minutes or more. These findings apply to patients with single HCC lesions (64.4% of the HEAT Study population) from both size cohorts of the HEAT Study (3-5 cm and 5-7 cm) and represent a subgroup of 285 patients. Median overall survival for the subgroup has not yet been reached. We may choose to end this analysis of overall survival once the median is reached for both arms of the study.

Data from the HEAT Study post-hoc analysis have been presented at five scientific and medical conferences in 2013 and 2014 by key HEAT Study investigators and leading liver cancer experts. The presentations include:

World Conference on Interventional Oncology in May 2013  
European Conference on Interventional Oncology in June 2013 and April 2014  
International Liver Cancer Association Annual Conference in September 2013 and 2014  
American Society of Clinical Oncology 50<sup>th</sup> Annual Meeting in June 2014

We also completed computational modeling with supplementary prospective preclinical animal studies supporting the relationship between heating duration and clinical outcomes.

On February 24, 2014, we announced that the U.S. Food and Drug Administration (FDA), after its customary 30 day review period, accepted without comment, subject to compliance with regulatory standards, our pivotal, double-blind, placebo-controlled Phase III trial of ThermoDox®, our proprietary heat-activated liposomal encapsulation of doxorubicin in combination with RFA in primary liver cancer, also known as HCC (the OPTIMA Study). The OPTIMA Study trial design is based on the comprehensive analysis of data from the HEAT study, which, as described previously, demonstrated that treatment with ThermoDox® resulted in a 59% improvement in overall survival in a large number of HCC patients that received an optimized RFA treatment for longer than 45 minutes. Designed with extensive input from globally recognized HCC researchers and clinicians and, after formal written consultation with the FDA, the OPTIMA Study was launched in the first half of 2014. The OPTIMA Study is expected to enroll up to 550 patients globally at up to 100 sites in the United States, Europe, China and elsewhere in the Asia Pacific region, and will evaluate ThermoDox® in combination with standardized RFA, which will require a minimum of 45 minutes across all investigators and clinical sites for treating lesions 3 to 7 centimeters, versus standardized RFA alone. The primary endpoint for the trial is overall survival, and the secondary endpoints for the trial are PFS and Safety. The statistical plan calls for two interim efficacy analyses by an independent DMC.

In addition, the Company has met with the China State Food and Drug Administration (CHINA FDA) to discuss the OPTIMA Phase III Study including minimum patient enrollment requirements supporting the registration of ThermoDox® in China. Based on those discussions, we have submitted an application for accelerated approval of the OPTIMA Study in China. We also filed a request for a Voluntary Harmonization Procedure (VHP) in Europe, which provides for the assessment of multinational clinical trial applications across several European countries, including Germany, Italy and Spain. Our request for a VHP in Europe was approved on October 23, 2014.

On June 20, 2014, we completed the acquisition of substantially all of the assets of EGEN, Inc., an Alabama Corporation (EGEN), pursuant to an Asset Purchase Agreement. CLSN Laboratories, Inc., a Delaware corporation and a wholly-owned subsidiary of ours (CLSN Laboratories), acquired all of EGEN's right, title and interest in and to substantially all of the assets of EGEN, including cash and cash equivalents, patents, trademarks and other intellectual property rights, clinical data, certain contracts, licenses and permits, equipment, furniture, office equipment, furnishings, supplies and other tangible personal property. In addition, CLSN Laboratories assumed certain specified liabilities of EGEN, including the liabilities arising out of the acquired contracts and other assets relating to periods after the closing date. The consideration of the acquisition include an initial payment of approximately \$3.0 million in cash plus 2.7 million shares of Celsion's common stock. Additional consideration included contingent value rights totaling \$30.4 million, payable in cash, shares of Celsion common stock or a combination thereof, at Celsion's option, upon achievement of three major milestone events as follows:

- a) Certain specified development milestones relating to GEN-1 to treat ovarian cancer patients (\$12.0 million);

- b) Certain specified development milestones relating to GEN-1 to treat GBM cancer patients (\$12.0 million); and
- c) A self-liquidating payment of 50% of all fees received from the licensing of TherSilence (up to \$6.0 million).

With the acquisition, we purchased GEN-1 (formerly known as EGEN-001), a DNA-based immunotherapy for the localized treatment of ovarian and brain cancers, and three platform technologies for the development of treatments for those suffering with difficult-to-treat forms of cancer, novel nucleic acid-based immunotherapies and other anti-cancer DNA or RNA therapies, including TheraPlas™ and TheraSilence™. In February 2015, we announced that the FDA accepted, without comment, the Phase I dose-escalation clinical trial of GEN-1 in combination with the standard of care in neo-adjuvant ovarian cancer. The clinical trial will identify a safe, tolerable and potentially therapeutically active dose of GEN-1 while maximizing an immune response. The trial is designed to enroll three to six patients per dose level and will evaluate safety and efficacy and attempt to define an optimal dose to carry forward into a Phase II trial. We expect to initiate enrollment for the trial in the second half of 2015 at five to six U.S. clinical centers.

In 2007, we sold our medical device franchise to Boston Scientific Corporation for net aggregate payments of \$43 million, receiving \$13 million in 2007 and \$15 million in each of 2008 and 2009. Since this divestiture, we have dedicated our efforts and resources to the development and commercialization of cancer drugs including tumor-targeting chemotherapy treatments using focused heat energy in combination with heat-activated drug delivery systems, immunotherapies and RNA-based therapies. To support our research and development, we raised gross proceeds of approximately \$95 million in equity financings and warrant and option exercises in the years 2009 through 2013. In January 2014, we raised net proceeds of \$14 million through an equity financing. We had cash, cash equivalents, short-term investments and interest receivable totaling \$37 million at the end at December 31, 2014. We have one credit facility for a total principle amount of up to \$20 million and have drawn down \$10 million under this credit facility.

On December 5, 2008, we entered into a development, product supply and commercialization agreement with Yakult Honsha Co., Ltd. (the Yakult Agreement) under which we granted Yakult an exclusive right to commercialize and market ThermoDox<sup>®</sup> for the Japanese market. We received a \$2.5 million upfront licensing fee and may receive additional payments from Yakult upon receipt of marketing approval by the Japanese Ministry of Health, Labor and Welfare as well as upon the achievement of certain levels of sales and approval for new indications. Under the Yakult Agreement, we will receive double-digit escalating royalties on the sale of ThermoDox<sup>®</sup> in Japan, when and if any such sales occur, and we also will be the exclusive supplier of ThermoDox<sup>®</sup> to Yakult. In January 2011, we amended the Yakult Agreement to provide for up to \$4.0 million in an accelerated partial payment to us of a future drug approval milestone, which included \$2.0 million paid to us upon the closing of the preferred equity financing and an additional \$2.0 million conditioned upon the resumption of enrollment of Japanese patients in the Japan cohort of the HEAT study. In consideration of these accelerated milestone payments from Yakult, we agreed to reduce future drug approval milestone payments by approximately 40%. All other milestone payments were unaffected.

On May 6, 2012, we entered into a long-term commercial supply agreement with Zhejiang Hisun Pharmaceutical Co. Ltd. (Hisun) for the production of ThermoDox<sup>®</sup> in mainland China, Hong Kong and Macau (the China territory). Hisun will be responsible for providing all of the technical and regulatory support services for the manufacture of ThermoDox<sup>®</sup> in the China territory and we will repay Hisun the related development costs and fees, which we expect to be approximately \$1.2 million in total, commencing on the successful completion of three registrational batches of ThermoDox<sup>®</sup>. In March 2015, results of stability tests performed by Hisun demonstrated it successfully completed three registration batches of ThermoDox<sup>®</sup>, all of which show substantial chemical equivalence with investigational product produced by the Company's current contract manufacturer. We plan to qualify and seek regulatory approval for HISUN to serve as an approved manufacturer for China and Europe.

On January 18, 2013, we broadened our relationship with Hisun by entering into a technology development contract, pursuant to which Hisun paid us a non-refundable research and development fee of \$5.0 million to support our development of ThermoDox<sup>®</sup>. Following our announcement of the HEAT Study results on January 31, 2013, we and Hisun agreed that the technology development contract entered into on January 18, 2013 will remain in effect while the parties continue to collaborate the next steps in relation to ThermoDox<sup>®</sup>, which include the continued subgroup analysis of the Chinese cohort of patients in the HEAT Study for primary liver cancer and other activities to further the development of ThermoDox<sup>®</sup> for the China territory.

On July 19, 2013, we and Hisun entered into a Memorandum of Understanding to pursue ongoing collaborations for the continued clinical development of ThermoDox<sup>®</sup> and the technology transfer relating to the commercial manufacture of ThermoDox<sup>®</sup> for the China territory. This expanded collaboration includes development of the next generation liposomal formulation with the goal of creating safer, more efficacious versions of marketed cancer chemotherapeutics.

As a result of the risks and uncertainties discussed in this Annual Report on Form 10-K, among others, we are unable to estimate the duration and completion costs of our research and development projects or when, if ever, and to what extent we will receive cash inflows from the commercialization and sale of a product. Our inability to complete any of

our research and development activities, preclinical studies or clinical trials in a timely manner or our failure to enter into collaborative agreements when appropriate could significantly increase our capital requirements and could adversely impact our liquidity. While our estimated future capital requirements are uncertain and could increase or decrease as a result of many factors, including the extent to which we choose to advance our research, development activities, preclinical studies and clinical trials, or if we are in a position to pursue manufacturing or commercialization activities, we will need significant additional capital to develop our product candidates through development and clinical trials, obtain regulatory approvals and manufacture and commercialize approved products, if any. We do not know whether we will be able to access additional capital when needed or on terms favorable to us or our stockholders. Our inability to raise additional capital, or to do so on terms reasonably acceptable to us, would jeopardize the future success of our business.



As a clinical stage biopharmaceutical company, our business and our ability to execute our strategy to achieve our corporate goals are subject to numerous risks and uncertainties. Material risks and uncertainties relating to our business and our industry are described in "Part I, Item 1A. Risk Factors" in this Annual Report on Form 10-K.

## **THERMODOX® (DOXORUBICIN ENCAPSULATED IN HEAT-ACTIVATED LIPOSOME)**

Liposomes are manufactured submicroscopic vesicles consisting of a discrete aqueous central compartment surrounded by a membrane bilayer composed of naturally occurring lipids. Conventional liposomes have been designed and manufactured to carry drugs and increase residence time, thus allowing the drugs to remain in the bloodstream for extended periods of time before they are removed from the body. However, the current existing liposomal formulations of cancer drugs and liposomal cancer drugs under development do not provide for the immediate release of the drug and the direct targeting of organ specific tumors, two important characteristics that are required for improving the efficacy of cancer drugs such as doxorubicin. A team of research scientists at Duke University developed a heat-sensitive liposome that rapidly changes its structure when heated to a threshold minimum temperature of 39.5° to 42° Celsius. Heating creates channels in the liposome bilayer that allow an encapsulated drug to rapidly disperse into the surrounding tissue. Through a perpetual, world-wide, exclusive development and commercialization license from Duke University, Celsion has licensed this novel, heat-activated liposomal technology that is differentiated from other liposomes through its unique low heat-activated release of encapsulated chemotherapeutic agents.

We are using several available focused-heat technologies, such as radio frequency ablation (RFA), microwave energy and high intensity focused ultrasound (HIFU), to activate the release of drugs from our novel heat-sensitive liposomes.

## ***THERMODOX® IN RELATION TO PRIMARY LIVER CANCER***

### **Liver Cancer Overview**

Primary liver cancer (hepatocellular carcinoma or HCC) is one of the most common and deadliest forms of cancer worldwide. It ranks as the fifth most common solid tumor cancer. It is estimated that up to 90% of liver cancer patients will die within five years of diagnosis. The incidence of primary liver cancer is approximately 28,000 cases per year in the United States, approximately 40,000 cases per year in Europe and is rapidly growing worldwide at approximately 800,000 cases per year. HCC has the fastest rate of growth of all cancers and is projected to be the most prevalent form of cancer by 2020. HCC is commonly diagnosed in patients with longstanding hepatic disease and cirrhosis (primarily due to hepatitis C in the U.S. and Europe and hepatitis B in Asia).

At an early stage, the standard first line treatment for liver cancer is surgical resection of the tumor. Up to 80% of patients are ineligible for surgery or transplantation at time of diagnosis because early stage liver cancer generally has few symptoms and when finally detected the tumor frequently is too large for surgical resection. There are few alternative treatments, since radiation therapy and chemotherapy are largely ineffective. For tumors generally up to 5 centimeters in diameter, RFA has emerged as the standard of care treatment which directly destroys the tumor tissue through the application of high temperatures administered by a probe inserted into the core of the tumor. Local recurrence rates after RFA directly correlate to the size of the tumor. For tumors 3 cm or smaller in diameter the recurrence rate has been reported to be 10 – 20%; however, for tumors greater than 3 cm, local recurrence rates of 40% or higher have been observed.

### **Celsion's Approach**

While RFA uses extremely high temperatures (greater than 80° Celsius) to ablate the tumor, it may fail to treat micro-metastases in the outer margins of the ablation zone because temperatures in the periphery may not be high enough to destroy the cancer cells. Celsion's ThermoDox® treatment approach is designed to utilize the ability of RFA devices to ablate the center of the tumor while simultaneously thermally activating the ThermoDox® liposome to release its encapsulated doxorubicin to kill remaining viable cancer cells throughout the heated region, including the tumor ablation margins. This novel treatment approach is intended to deliver the drug directly to those cancer cells that survive RFA. This approach will also increase the delivery of the doxorubicin at the desired tumor site while potentially reducing drug exposure distant to the tumor site.

### **Phase I Clinical Trial - Primary Liver Cancer**

In the second quarter of 2007, we completed our first Phase I single dose escalation clinical trial that investigated ThermoDox® in combination with RFA for the treatment of primary and metastatic liver cancer. The study was carried out at the National Cancer Institute (NCI), which is part of the National Institutes of Health (NIH) and Queen Mary Hospital in Hong Kong.

In 2007 we initiated a second Phase I dose escalation study designed to investigate simplification of the current RFA/ThermoDox® treatment regimen including a single vial formulation of ThermoDox® designed for commercial distribution. The study also permitted multiple dosing in liver cancer patients. This clinical trial was completed in 2008.

### **701 Patient Global Clinical Trial - Primary Liver Cancer (The HEAT Study)**

The HEAT Study for ThermoDox®, in combination with RFA, was conducted in patients with primary liver cancer under a Special Protocol Assessment agreed to with the FDA. The Special Protocol Assessment (SPA) agreed to with the FDA specified PFS as the HEAT Study's primary endpoint. We scheduled a meeting with the HEAT Study independent DMC on January 30, 2013 in order to conduct an analysis of the HEAT Study's PFS endpoint. Following review by the DMC, on January 31, 2013, we announced that ThermoDox® in combination with RFA did not meet the HEAT Study's primary endpoint of PFS. Specifically, we determined, after conferring with the DMC, that the HEAT Study did not meet the goal of demonstrating persuasive evidence of clinical effectiveness that could form the basis for regulatory approval in the population chosen for the HEAT Study. The HEAT Study was designed to show a 33 percent improvement in PFS with 80 percent power and a p-value = 0.05. In the trial, ThermoDox® was well-tolerated with no unexpected serious adverse events.

As provided for in the SPA, we continue to follow the patients enrolled in the HEAT Study to the secondary endpoint of overall survival. We have evaluated data from seven sweeps of overall survival since the announcement of the HEAT Study's primary endpoint result, with each showing progressive improvement in statistical significance. In January 2014, we announced that the OS data from the post-hoc analysis of results from the HEAT Study support continued clinical development through a prospective pivotal Phase III Study. The post-hoc data suggest that ThermoDox® may substantially improve overall survival, when compared to the control group, in patients whose lesions undergo optimized RFA treatment for 45 minutes or more. The most recent post-hoc analysis data from the HEAT Study announced in February 2015 demonstrate that the patient subgroup in the ThermoDox® arm whose RFA procedure lasted longer than 45 minutes (285 patients or 41% of the study patients), experienced a 59% improvement in overall survival, with a Hazard Ratio of 0.628 (95% CI 0.420 - 0.939) and a P-value of 0.02. A multivariate analysis we conducted supports our hypothesis that RFA time is the determining factor in improving OS. This information should be viewed with caution since it is based on a retrospective analysis of a subgroup that has not reached its median point for the overall survival analysis. We may choose to end this analysis of overall survival once

the median is reached for both arms of the study.

We also completed computational modeling with supplementary prospective preclinical animal studies which support the relationship between heating duration and clinical outcomes.

### **Phase III Global Clinical Trial - Primary Liver Cancer (The OPTIMA Study)**

Based on the overall survival data from the post-hoc analysis of results from HEAT Study, we submitted our proposed pivotal Phase III clinical protocol for the FDA review in the fourth quarter of 2013. On February 24, 2014, we announced that the FDA, after its customary 30 day review period, accepted without comment, subject to compliance with regulatory standards, clearance for the OPTIMA Study our pivotal, double-blind, placebo-controlled Phase III trial of ThermoDox<sup>®</sup> in combination with standardized RFA in primary liver cancer, also known as HCC. The OPTIMA Study trial design is based on a comprehensive analysis of data from our Phase III HEAT Study.

Designed with extensive input from globally recognized HCC researchers and clinicians and after formal written consultation with the FDA, the OPTIMA Study was launched in the first half of 2014. The OPTIMA Study is expected to enroll up to 550 patients globally at up to 100 sites in the United States, Europe, China and elsewhere in the Asia Pacific region, and will evaluate ThermoDox<sup>®</sup> in combination with standardized RFA, which will require a minimum of 45 minutes across all investigators and clinical sites for treating lesions 3 to 7 centimeters, versus standardized RFA alone. The primary endpoint for the trial is overall survival, and the secondary endpoints for the trial are PFS and Safety. The OPTIMA Study is 80% powered to show a 33% improvement in OS. The statistical plan calls for two interim efficacy analyses by an independent DMC. As reported in February 2015, post-hoc data from the HEAT Study demonstrate that a sizable, well bounded subgroup of patients in the ThermoDox<sup>®</sup> arm whose RFA procedure lasted longer than 45 minutes experienced a 59% improvement in overall survival, with a Hazard Ratio of 0.628 (95% CI 0.420 - 0.939) and a P-value = 0.02.

In addition, the Company has met with the China State Food and Drug Administration (CHINA FDA) to discuss the OPTIMA Phase III Study including minimum patient enrollment requirements supporting the registration of ThermoDox® in China. Based on those discussions, we have submitted an application for accelerated approval of the OPTIMA Study in China. We also filed a request for a Voluntary Harmonization Procedure (VHP) in Europe, which provides for the assessment of multinational clinical trial applications across several European countries, including Germany, Italy and Spain. Our request for a VHP in Europe was approved on October 23, 2014.

We will continue with partnerships, such as our arrangement with Hisun to the extent feasible. In addition, we have assessed our product pipeline and research and development priorities. As we evaluate strategic alternatives, we will need to consider a number of factors, including investment in, or acquisition of, complementary businesses, technologies or products, possible capital raising transactions, partnering opportunities and working capital requirements. We expect that the strength of our balance sheet will afford us the opportunity to evaluate our future development plans. However, as demonstrated by the HEAT Study results announced on January 31, 2013, drug research and development is an inherently uncertain process and there is a high risk of failure at every stage prior to approval. The timing and the outcome of clinical results is extremely difficult to predict. Clinical development successes and failures can have a disproportionate positive or negative impact on our scientific and medical prospects, financial prospects, financial condition and market value.

#### ***THERMODOX® IN RELATION TO CANCERS OTHER THAN PRIMARY LIVER CANCER***

In June 2012, we announced collaboration with the University of Oxford to begin an early phase clinical study of ThermoDox® plus HIFU in the treatment of metastatic liver cancer. The trial, which is supported by the National Institute for Health Research Oxford Biomedical Research Centre, will be carried out as a multidisciplinary collaboration between us, the Oxford University Institute of Biomedical Engineering and the Oxford University Hospitals NHS Trust. This early phase clinical study is being finalized and will require approval from a local ethics committee.

In collaboration with the Focused Ultrasound Foundation, we are sponsoring preclinical studies designed to explore the use of ThermoDox® in combination with MR-guided HIFU for the treatment of pancreatic cancer. The studies are being conducted at the University of Washington (UW) School of Medicine. The UW research includes animal models to confirm the ability of HIFU to target concentrations of doxorubicin in proprietary pancreatic cancer cell lines and in vivo studies to assess the response to these tumors treated using ThermoDox® with and without HIFU-induced hyperthermia. We believe that these collaborations are providing important new device technologies such as HIFU to activate our low heat sensitive liposomal technology in difficult-to-treat cancers.

#### **Recurrent Chest Wall (RCW) Breast Cancer Overview**

Breast cancer is the most common malignancy in women in both the United States and the world. Despite a variety of therapeutic approaches, up to 40% of the estimated 95,000 patients in the United States undergoing a mastectomy as their primary treatment will develop locally recurrent RCW breast cancer. There is currently no effective chemotherapeutic standard of care for RCW breast cancer and as a result, many of these patients will die within two years of the recurrence. Patients with RCW breast cancer suffer from disfiguring tumors and other symptoms including pain, foul-smelling wounds, and a very visual reminder of tumor progression.

### **Celsion's Approach**

We have been actively seeking a targeted localized treatment for breast cancer using ThermoDox® in conjunction with localized microwave hyperthermia to treat RCW breast cancer. Studies at Duke University and other centers have indicated that heat may improve the therapeutic action of non-temperature sensitive liposomal doxorubicin formulations in advanced loco-regional breast cancer. Our liposomal encapsulated doxorubicin is released by heat generated from an external microwave tissue hyperthermia device that is placed on a woman's chest. The microwave hyperthermia heats the target to a temperature adequate to activate ThermoDox® but not to ablate the tissue like RFA. Upon heating to 39.5° to 42° C, a significant concentration of doxorubicin is released directly to the tumor. As in our liver cancer program, we use a commercially available thermotherapy device to heat the target tissue and activate ThermoDox® at the desired target site.

Microwave hyperthermia as a separate standalone treatment has been found to have the ability to kill breast cancer cells. Because breast cancer cells have higher water content than surrounding normal cells, the tumor is heated to a greater extent than normal breast tissue and is selectively destroyed. Therefore, heating cancer cells with a microwave device for sixty minutes at 43°C has been found to be tumoricidal. We expect that the combination of microwave hyperthermia and ThermoDox® will be more efficacious than microwave hyperthermia alone or treatment with existing non-heat activated liposomal formulations.

### **Breast Cancer Phase I/II Clinical Trial - The DIGNITY Study**

In 2009, the Company commenced an open label, dose-escalating ThermoDox® Phase I/Phase II clinical trial for patients with RCW breast cancer – (the DIGNITY Study). The DIGNITY Study is designed to establish a safe therapeutic dose in Phase I, and in Phase II to demonstrate local control, including complete and partial responses, and stable disease as its primary endpoint. The DIGNITY Study is also planned to evaluate kinetics in ThermoDox® produced from more than one manufacturing site.

The Company completed enrollment of the Phase I portion of the study in 2010 and an independent Data Safety Monitoring Board declared 50mg/m<sup>2</sup> to be the Phase II dose. The Phase II portion of the DIGNITY Study protocol has been reviewed by the FDA and enrollment commenced in the first quarter of 2013. The trial is designed to enroll up to 20 patients at five clinical sites in the United States and is evaluating ThermoDox® in combination with mild hyperthermia. Enrollment is expected to be completed in mid-2015 with final clinical results to be reported in the second half of 2015.

Duke University conducted a Phase I dose escalating ThermoDox® study in patients with RCW breast cancer and has presented preliminary results from the 16 enrolled patients that characterize the safety of the drug in RCW patients and the feasibility of ThermoDox® administration in these patients. In December 2013, we announced combined clinical data from our DIGNITY study and the Duke University sponsored Phase I trial of ThermoDox® plus hyperthermia in RCW breast cancer. The two similarly designed Phase I studies enrolled patients with highly resistant tumors found on the chest wall and who had progressed on previous therapy including chemotherapy, radiation therapy and hormone therapy. ThermoDox® in combination with mild hyperthermia was evaluated in these patients in up to six cycles. Both studies employed an open label 3+3 dose escalation study design to determine the Maximum Tolerated Dose, evaluate safety and determine early effects of ThermoDox® in combination with mild hyperthermia. There were 29 patients treated in the two trials, including 11 patients in the DIGNITY Study and 18 patients in the Duke study. Of the 29 patients, 23 were eligible for evaluation of efficacy. A local response rate of over 60 percent was reported in 14 of the 23 evaluable patients with five complete responses and nine partial responses.

On July 24, 2014, we announced interim data from the DIGNITY Study of ThermoDox® in RCW Breast Cancer. Of the 14 patients enrolled and treated, ten were eligible for evaluation of efficacy. Based on data available to date, approximately 60% of patients experienced a stabilization of their highly refractory disease with a local response rate

of 50% observed in the ten evaluable patients, notably three complete responses, two partial responses and one patient with stable disease. These data are consistent with the combined clinical data from the two Phase I trials discussed above.

### **Breast Cancer Phase II Clinical Trial - The Euro-DIGNITY Study**

The Company anticipates a Phase II study of RadioTherapy (RT), HyperThermia (HT) and ThermoDox<sup>®</sup> to treat patients with local-regional recurrent chest wall breast cancer will be initiated by six to eight physicians and institutions located in Italy, Israel, the Netherlands, Poland and the Czech Republic (the Euro-DIGNITY Study). The Euro-DIGNITY Study will be Phase II study enrolling up to 100 patients affected by recurrent breast adenocarcinoma on the chest wall with/without nodes over a period of two years.

The primary objectives of the Euro-DIGNITY Study will be (i) to evaluate efficacy in patients after 3 cycles of ThermoDox<sup>®</sup> plus Hyperthermia measuring tumor diameter as a response to therapy and (ii) to evaluate loco-regional breast tumor control in patients who undergo ThermoDox<sup>®</sup>/hyperthermia/radiotherapy as measured by target lesion clinical response rate combining a RECIST criteria with digital photography to gauge response.



Secondary objectives of the Euro-DIGNITY Study will be (i) to evaluate the safety of the combination of ThermoDox/Hyperthermia/Radiotherapy among patients with LRR breast cancer, (ii) to evaluate the duration of local control complete response (CR), partial response (PR) and stable disease (SD) following treatment with ThermoDox/Hyperthermia/Radiotherapy up to 24 months among patients with LRR breast cancer and (iii) to assess Patient Reported Quality of Life using the FACT-B and Brief Pain Inventory (BPI) following treatment with ThermoDox/Hyperthermia/Radiotherapy among patients with LRR breast cancer.

### **Early Access Program for ThermoDox® for the Treatment of Patients with RCW Breast Cancer**

On January 13, 2015, we entered into an Early Access Agreement with Impatiens N.V., a Netherlands company (Impatiens), pursuant to which Impatiens will develop and execute through its brand myTomorrows an early access program for ThermoDox® in all countries of the European Union territory, Iceland, Liechtenstein, Norway and Switzerland (the Territory) for the treatment of patients with RCW breast cancer. Under the early access program, Impatiens will engage in activities to secure authorization, exemption or waiver from regulatory authorities for patient use of ThermoDox® that may otherwise be subject to approvals from such regulatory authorities before the sale and distribution of ThermoDox® in the relevant territories. We will be responsible for the manufacture and supply of quantities of ThermoDox® to Impatiens for use in the Early Access Program and Impatiens will distribute and sell ThermoDox® pursuant to such authorization, exemptions or waivers.

### **Acquisition of EGEN**

On June 20, 2014, we completed the acquisition of substantially all of the assets of EGEN, Inc. (EGEN) pursuant to an Asset Purchase Agreement (EGEN Asset Purchase Agreement). CLSN Laboratories acquired all of EGEN's right, title and interest in and to substantially all of the assets of EGEN, including cash and cash equivalents, patents, trademarks and other intellectual property rights, clinical data, certain contracts, licenses and permits, equipment, furniture, office equipment, furnishings, supplies and other tangible personal property. In addition, CLSN Laboratories assumed certain specified liabilities of EGEN, including the liabilities arising out of the acquired contracts and other assets relating to periods after the closing date. The EGEN Purchase Agreement contains customary representations and warranties regarding EGEN and Celsion, covenants regarding the conduct of EGEN's business prior to the consummation of the Acquisition, indemnification provisions, termination and other provisions customary for transactions of this nature.

In the acquisition, we purchased GEN-1, a DNA-based immunotherapy for the localized treatment of ovarian and brain cancers, and three platform technologies for the development of treatments for those suffering with difficult-to-treat forms of cancer, novel nucleic acid-based immunotherapies and other anti-cancer DNA or RNA therapies, including TheraPlas™ and TheraSilence™.

## Ovarian Cancer Overview

Ovarian cancer is the most lethal of gynecological malignancies among women with an overall five year survival rate of 44.6% between the years 2004 to 2010. This poor outcome is due in part to the lack of effective prevention and early detection strategies. There were approximately 22,000 new cases of ovarian cancer in the US in 2014 with an estimated 14,000 deaths. Mortality rates for ovarian cancer declined very little in the last forty years due to the unavailability of detection tests and improved treatments. Most women with ovarian cancer are not diagnosed until Stages III or IV, when the disease has spread outside the pelvis to the abdomen and areas beyond causing swelling and pain, where the five-year survival rates are 25 to 41 percent and 11 percent, respectively. First-line chemotherapy regimens are typically platinum-based combination therapies. Although this first line of treatment has an approximate 80 percent response rate, 55 to 75 percent of women will develop recurrent ovarian cancer within two years and ultimately will not respond to platinum therapy. Patients whose cancer recurs or progresses after initially responding to surgery and first-line chemotherapy have been divided into one of the two groups based on the time from completion of platinum therapy to disease recurrence or progression. This time period is referred to as platinum-free interval. The platinum-sensitive group has a platinum-free interval of longer than six months. This group generally responds to additional treatment with platinum-based therapies. The platinum-resistant group has a platinum-free interval of shorter than six months and is resistant to additional platinum-based treatments. Pegylated liposomal doxorubicin, topotecan, and Avastin are the only approved second-line therapies for platinum-resistant ovarian cancer. The overall response rate for these therapies is 10 to 20 percent with median overall survival of eleven to twelve months. Immunotherapy is an attractive novel approach for the treatment of ovarian cancer particularly since ovarian cancers are considered immunogenic tumors. Interleukin-12 (IL-12) is a pluripotent cytokine with potent immune-stimulatory and anti-angiogenic properties. The precedence for a therapeutic role of IL-12 in ovarian cancer is based on epidemiologic and preclinical data.

## **Celsion's Approach**

Celsion's GEN-1 approach for IL-12 delivery is designed to achieve local concentrations of IL-12 at the tumor site with minimal increases in systemic circulation. This DNA-based approach involves intraperitoneal (IP) administration of an IL-12 plasmid formulated with a proprietary lipopolymer delivery system PEG-PEI-Cholesterol. In this approach, our GEN-1 immunotherapy is combined with standard chemotherapy drugs to achieve better clinical outcome than with chemotherapy alone. Increases in IL-12 concentrations at the tumor site for several days after a single administration will create a potent immune environment against the tumor and a direct killing of the tumor with concomitant use of cytotoxic chemotherapy together will result in more robust and durable antitumor response than chemotherapy alone. The activation of the body's immune system will potentially eliminate the chemotherapy resistant cells and lower the risk of recurrence.

## **GEN-1 Single Agent Clinical Trials**

The First-In-Man, Phase 1 clinical trial of GEN-1 monotherapy was conducted to determine the safety/tolerability of IP administered GEN-1 in platinum-resistant (Stage III and IV) ovarian cancer patients who had received 2-6 prior chemotherapy treatments. This open label, non-randomized, dose escalation study enrolled a total of 13 patients in 4 dose escalation cohorts (0.6 (n=3), 3.0 (n=3), 12 (n=4), and 24 (n=3) mg/m<sup>2</sup>). All four weekly treatments of IP administered GEN-1 at escalating doses were well tolerated. Thirty nine percent (39%) of patients treated had stable disease.

In a Phase II study, GEN-1 IP was administered at 24 mg/m<sup>2</sup> dose once every week until progression or intolerable toxicity in women with persistent epithelial ovarian, fallopian tube or primary peritoneal cancer. The GEN-1 treatment was well tolerated within this Phase II Study..

## **GEN-1 Combination Clinical Trials**

A Phase I dose-escalation trial of IP GEN-1 (12 mg/m<sup>2</sup>, 18 mg/m<sup>2</sup> and 24 mg/m<sup>2</sup>) plus IV carboplatin (AUC 5)/docetaxel (75 mg/m<sup>2</sup>) was examined in recurrent ovarian cancer patients who had previously treated with first-line chemotherapy and had disease recurrence 6 months after treatment (the platinum-sensitive disease) with a total of 13 patients enrolled in the study. The GEN-1 treatment administered in combination with carboplatin/docetaxel was well tolerated. Increasing the GEN-1 dosing frequency from 4 treatments to 8 treatments in conjunction with chemotherapy was also well tolerated. There were no apparent drug related, clinically significant negative trends in laboratory test results, vital sign measurements, or physical examination findings. The best clinical response rate was 92% including 17% CR, 33% PR and 42% SD. The median progression-free survival and overall survival for all treatment groups was 8.8 months and 16.6 months, respectively.

Based on encouraging results from GEN-1 monotherapy Phase I and Phase II clinical trials in platinum resistant ovarian cancer patients, a Phase Ib combination trial of GEN-1 plus Doxil initiated in this patient population was conducted. Since the clinical responses to second line therapies is poor (historically the objective response rates are less than 15%), it is hypothesized that the addition of GEN-1 would improve the clinical outcome in this difficult to treat patient population. This trial, which was a standard 3 + 3 Phase I, three cohort, dose escalation study in three cohorts which enrolled 16 evaluable patients receiving increasing doses of Doxil and GEN-1. Of these 16 evaluable patients on this study, a clinical benefit of 57.1% (PR=21.4%; SD=35.7%) was found in the 14 patients with a measurable disease. The highest number of partial responses was found at the highest dose level (36 mg/m<sup>2</sup> dose of GEN-1 combined with 50 mg/m<sup>2</sup> Doxil) which demonstrated that the maximum tolerated dose was not exceeded. These results from the combination trial are highly encouraging since the historical Objective Response Rate in Doxil treated patients is less than 15%.

In January 2015, we announced that we submitted to the FDA a Phase I clinical trial protocol for GEN-1 for the treatment of ovarian cancer. The protocol, developed with guidance from the Company's Medical Advisory Board, is designed to establish a safe dose and biological activity of GEN-1 in newly diagnosed ovarian cancer patients who will be undergoing neoadjuvant chemotherapy. The clinical trial will identify a safe, tolerable and potentially therapeutically active dose of GEN-1 while maximizing an immune response with the potential to identify an enhanced population for definitive study. In February 2015, we announced that the FDA has accepted, without comment, the Phase I dose-escalation clinical trial of GEN-1 in combination with the standard of care in neo-adjuvant ovarian cancer. The trial is designed to enroll three to six patients per dose level and will evaluate safety and efficacy and attempt to define an optimal dose to carry forward into a Phase II trial. We expect to initiate enrollment for the trial in the second half of 2015 at five to six U.S. clinical centers.

### ***THERAPLAS™ TECHNOLOGY PLATFORM***

TheraPlas™ is a technology platform for the delivery of DNA and messenger RNA (mRNA) therapeutics via synthetic non-viral carriers and is capable of providing cell transfection for double-stranded DNA plasmids and large therapeutic RNA segments such as mRNA. There are two components of a TheraPlas system, a plasmid DNA or mRNA payload encoding a therapeutic protein, and a delivery system. The delivery system is designed to protect the DNA/RNA from degradation and promote trafficking into cells and through intracellular compartments. We designed the delivery system of TheraPlas™ by chemically modifying the low molecular weight polymer to improve its gene transfer activity without increasing toxicity. We believe that TheraPlas™ is a viable alternative to current approaches to gene delivery due to several distinguishing characteristics, including enhanced molecular versatility that allows for complex modifications to improve activity and safety.

The design of TheraPlas delivery systems is based on molecular functionalization of polyethyleneimine (PEI), a cationic delivery polymer with a distinct ability to escape from the endosomes due to heavy protonation. The transfection activity and toxicity of PEI is tightly coupled to its molecular weight therefore the clinical application of PEI is limited. We have used molecular functionalization strategies to improve the activity of low molecular weight PEIs without augmenting their cytotoxicity. In one instance, chemical conjugation of a low molecular weight branched BPEI1800 with cholesterol and polyethylene glycol (PEG) to form PEG-PEI-Cholesterol (PPC) dramatically improved the transfection activity of BPEI1800 following in vivo delivery. Together, the cholesterol and PEG modifications produced approximately 20-fold enhancement in transfection activity. Biodistribution studies following intraperitoneal or subcutaneous administration of DNA/PPC nanocomplexes showed DNA delivery localized primarily at the injection site with only small amount escaped into systemic circulation. PPC is the delivery component of our lead TheraPlas product, GEN-1, which is in clinical development for the treatment ovarian cancer and in preclinical development for the treatment of glioblastoma. The PPC manufacturing process has been scaled up from bench scale (1-2 g) to 0.6Kg, and several cGMP lots have been produced with reproducible quality.

Another approach to improve PEI activity involved crosslinking low-molecular-weight PEIs through degradable linkages to create larger and degradable structures. Two cross-linked polymers have been synthesized with this approach and optimized for transfection activity. Both cross-linked polymers expressed several fold higher transfection activity than their respective monomers and lower cytotoxicity than a commercially available 25 kDa polymer. One embodiment of the polymer is being developed for in vivo delivery of plasmid DNA and mRNA. Intravenous administration of the nanoparticles carrying DNA or mRNA payload in mice has produced expression with high degree of lung specificity. The lung specificity and safety for mRNA delivery following intravenous administration in mice has been confirmed in non-human primates. These results demonstrate potential clinical utility for delivery of therapeutic DNA and RNA for lung diseases and pulmonary disorders.

TheraPlas™ has emerged as a viable alternative to current approaches due to several distinguishing characteristics such as excellent molecular versatility that allows for complex modifications to improve activity and safety with little difficulty. The biocompatibility of these polymers reduces the risk of adverse immune response, thus allowing for repeated administration. Compared to naked DNA or cationic lipids, TheraPlas™ is generally safer, more efficient, and

cost effective. We believe that these advantages place Celsion in an excellent position to capitalize on the technology.

### ***THERASILENCE™ TECHNOLOGY PLATFORM***

TheraSilence™ is a technology platform for the delivery of synthetically-generated inhibitory RNA (RNAi) such as small inhibitory RNAs (siRNAs), microRNAs, microRNA mimics, and related molecules that can regulate protein expression at the transcript level by exploiting endogenous cell mechanisms. Inhibitory RNA based therapies have tremendous potential for targeting virtually any disease related gene with a high degree of specificity and thus eliminating so called “non-drugable” target classes. The TheraSilence™ technology addresses the primary obstacle to nucleic acid-based therapeutics which is the efficient delivery to target cells. Specifically, a delivery system needs to be able to protect the RNAi from nuclease degradation, transfer the molecule across the cellular membranes and release the material so that it can be available to the endogenous RNA silencing machinery. We have developed proprietary, novel structures that are able to interact with the RNAi molecules forming protective nanoparticles that can be readily taken up into cells. In addition, these systems are chemically flexible and amenable to attachment of tissue-targeted ligands, in vivo stabilizing agents and other functional moieties which can tailor a formulation for a particular application and delivery modality. We believe that these features can provide high specificity for RNAi delivery to select tissue, enhance stability and reduce in vivo toxicity. In-vivo proof-of-concept studies of our most advanced system have shown the ability to deliver RNAi molecules specifically to the pulmonary vascular following intravenous administration. Using this delivery system we have been able to show in mice that delivery of a siRNA molecule that targets anti-vascular endothelial receptor 2 (VEGF2), a protein that is critical for the growth of new blood vessels in tumors, can significantly inhibit lung tumor growth. Additionally, delivery of an anti-micro RNA molecule into rats with experimentally induced pulmonary arterial hypertension was able to normalize vascular remodeling that occurs in the lung and restore cardiac function that is compromised as a result of the disease. This suggests that this delivery system can effectively deliver numerous potentially therapeutic molecular targets and may have application for the treatment of numerous lung diseases.

## **BUSINESS STRATEGY**

An element of our business strategy has been to pursue, as resources permit, the research and development of a range of product candidates for a variety of indications. We may also evaluate licensing cancer products from third parties for cancer treatments to expand our current product pipeline. This is intended to allow us to diversify the risks associated with our research and development expenditures. To the extent we are unable to maintain a broad range of product candidates, our dependence on the success of one or a few product candidates would increase and results such as those announced in relation to the HEAT study on January 31, 2013 will have a more significant impact on our financial prospects, financial condition and market value. We may also consider and evaluate strategic alternatives, including investment in, or acquisition of, complementary businesses, technologies or products. As demonstrated by the HEAT Study results, drug research and development is an inherently uncertain process and there is a high risk of failure at every stage prior to approval. The timing and the outcome of clinical results are extremely difficult to predict. The success or failure of any preclinical development and clinical trial can have a disproportionately positive or negative impact on our results of operations, financial condition, prospects and market value.

As a result of the risks and uncertainties discussed in this Annual Report on Form 10-K, among others, we are unable to estimate the duration and completion costs of our research and development projects or when, if ever, and to what extent we will receive cash inflows from the commercialization and sale of a product if one of our product candidates receives regulatory approval for marketing, if at all. Our inability to complete any of our research and development activities, preclinical studies or clinical trials in a timely manner or our failure to enter into collaborative agreements when appropriate could significantly increase our capital requirements and could adversely impact our liquidity. While our estimated future capital requirements are uncertain and could increase or decrease as a result of many factors, including the extent to which we choose to advance our research and development activities, preclinical studies and clinical trials, or whether we are in a position to pursue manufacturing or commercialization activities, we will need significant additional capital to develop our product candidates through development and clinical trials, obtain regulatory approvals and manufacture and commercialize approved products, if any. We do not know whether we will be able to access additional capital when needed or on terms favorable to us or our stockholders. Our inability to raise additional capital, or to do so on terms reasonably acceptable to us, would jeopardize the future success of our business.

## **RESEARCH AND DEVELOPMENT EXPENDITURES**

We are engaged in a limited amount of research and development in our own facilities and have sponsored research programs in partnership with various research institutions, including the National Cancer Institute and Duke University. We are currently, with minimal cash expenditures, sponsoring clinical and pre-clinical research at the University of Oxford, University of Utrecht, Brigham and Women's Hospital and the University of Washington. The majority of the spending in research and development is for the funding of ThermoDox® clinical trials. Research and development expenses were approximately \$15.0 million, \$9.4 million and \$15.8 million for the years ended December 31, 2014, 2013 and 2012, respectively. See *Item 7 – Management's Discussion and Analysis of Financial Condition and Results of Operation* for additional information regarding expenditures related to our research and

development programs.

## **GOVERNMENT REGULATION**

### *Regulation in the United States*

#### **Research and Development**

Our research and development activities, pre-clinical tests and clinical trials are subject to extensive regulation by the FDA as would the manufacturing, marketing and labeling of our products, if any. The Federal Food, Drug and Cosmetic Act, the Public Health Service Act and the regulations promulgated by the FDA govern, among other things, the testing, manufacture, safety, efficacy, labeling, storage, record keeping, approval, advertising, promotion, import and export of our products.



Under these statutes, our heat-activated liposomes will be regulated as a new drug. The steps ordinarily required before such products can be marketed in the U.S. include (a) pre-clinical and clinical studies; (b) the submission to the FDA of an application for, or approval, as an Investigational New Drug application (IND), which must become effective before human clinical trials may commence; (c) adequate and well-controlled human clinical trials to establish the safety and efficacy of the product; (d) the submission to the FDA of a New Drug Application (NDA); and (e) FDA approval of the application, including approval of all product labeling.

Pre-clinical tests include laboratory evaluation of product chemistry, formulation and stability, as well as animal studies, to assess the potential safety and efficacy of the product. Pre-clinical safety tests must be conducted by laboratories that comply with FDA regulations regarding good laboratory practice. The results of pre-clinical tests are submitted to the FDA as part of an IND and are reviewed by the FDA before the commencement of human clinical trials. Submission of an IND will not necessarily result in FDA authorization to commence clinical trials, and the absence of FDA objection to an IND does not necessarily mean that the FDA will ultimately approve an NDA or that a product candidate otherwise will come to market.

Clinical trials involve the administration of therapy to humans under the supervision of a qualified principal investigator. Clinical trials must be conducted in accordance with good clinical practices under protocols submitted to the FDA as part of an IND. Also, each clinical trial must be approved and conducted under the auspices of an internal review board (IRB), and with patient informed consent. An IRB will consider, among other things, ethical factors and the safety of human subjects and the possible liability of the institution conducting the clinical trials.

Clinical trials are typically conducted in two or three sequential phases, but the phases may overlap. Phase I clinical trials involve the initial introduction of the therapy to a small number of subjects. Phase II trials are generally larger trials conducted in the target population. Phase II studies may serve as the pivotal trials, providing the demonstration of safety and effectiveness required for approval. However, the FDA may require additional, post-market trials as a condition of approval. In the case of drugs and biological products, Phase II clinical trials generally are conducted in a target patient population to gather evidence about the pharmacokinetics, safety and biological or clinical efficacy of the drug for specific indications, to determine dosage tolerance and optimal dosage and to identify possible adverse effects and safety risks. When a drug or biological compound has shown evidence of efficacy and an acceptable safety profile in Phase II evaluations, Phase III clinical trials are undertaken to serve as the pivotal trials to demonstrate clinical efficacy and safety in an expanded patient population.

There can be no assurance that any of our clinical trials will be completed successfully within any specified time period or at all. On January 31, 2013, we announced that ThermoDox® in combination with RFA did not meet the primary endpoint of the HEAT study in patients with HCC, also known as primary liver cancer. Specifically, we determined, after conferring with the DMC, that the HEAT study did not meet the goal of demonstrating persuasive evidence of clinical effectiveness that could form the basis for regulatory approval in the population chosen for the HEAT study.

On February 24, 2014, we announced that the FDA, after its customary 30 day review period, accepted without comment, subject to compliance with regulatory standards, clearance for the OPTIMA Study our pivotal, double-blind, placebo-controlled Phase III trial of ThermoDox® in combination with RFA in primary liver cancer, also known as HCC. The OPTIMA Study trial design is based on a comprehensive analysis of data from our Phase III HEAT Study.

Either the FDA or we may suspend clinical trials at any time, if the FDA, our independent DMC, or we conclude that clinical subjects are being exposed to an unacceptable health risk or for other reasons. The FDA inspects and reviews clinical trial sites, informed consent forms, data from the clinical trial sites (including case report forms and record keeping procedures) and the performance of the protocols by clinical trial personnel to determine compliance with good clinical practices. The FDA also examines whether there was bias in the conduct of clinical trials. The conduct of clinical trials is complex and difficult, especially in pivotal Phase II or Phase III trials. There can be no assurance that the design or the performance of the pivotal clinical trial protocols or any of our current or future product candidates will be successful.

The results of pre-clinical studies and clinical trials, if successful, are submitted in an application for FDA approval to market the drug or biological product for a specified use. The testing and approval process requires substantial time and effort, and there can be no assurance that any approval will be granted for any product at any time, according to any schedule, or at all. The FDA may refuse to accept or approve an application if it believes that applicable regulatory criteria are not satisfied. The FDA may also require additional testing for safety and efficacy. Moreover, if regulatory approval is granted, the approval will be limited to specific indications. There can be no assurance that any of our current product candidates will receive regulatory approvals for marketing or, if approved, that approval will be for any or all of the indications that we request.

In 2009, the FDA granted orphan drug designation for ThermoDox<sup>®</sup> for the treatment of HCC. Orphan drug designation entitles the Company to seven years of market exclusivity following regulatory approval, if any, FDA assistance in clinical trial design, a reduction in FDA user fees, U.S. tax credits related to development expenses and the opportunity to apply for funding from the U.S. government to defray the costs of clinical trial expenses.

Any FDA-approved drug utilizing the patented technologies may also be eligible for regulatory exclusivities, such as new chemical entity exclusivity of five years in the US, and orphan drug exclusivity of seven years in the US and ten years in Europe. Additionally, an FDA-approved drug may be eligible for Biologics Exclusivity of 12 years in the US, ten years in Europe, five years in Australia, eight years in Canada and eight years in Japan.

### **Post-Approval Requirements**

After receipt of necessary regulatory approvals, if any, for initial manufacturing and sale of our product candidates, our contract manufacturing facilities and products are subject to ongoing review and periodic inspection. Each U.S. drug manufacturing establishment must be registered with the FDA. Manufacturing establishments in the U.S. and abroad are subject to inspections by the FDA and must comply with current good manufacturing practices. In order to ensure full technical compliance with such practices, manufacturers must expend funds, time and effort in the areas of production and quality control. In addition, the FDA may impose post-approval requirements on us, including the requirement that we conduct specified post-marketing studies.

### **Inspections**

We are subject to the periodic inspection of our clinical trials, facilities, procedures and operations and/or the testing of our products by the FDA to determine whether our systems and processes are in compliance with FDA regulations. Following such inspections, the FDA may issue notices on Form 483 and warning letters that require certain activities identified during the inspection to be modified. A Form 483 notice is generally issued at the conclusion of an FDA inspection and lists conditions the FDA inspectors believe may violate FDA regulations. FDA guidelines specify that a warning letter only is to be issued for violations of “regulatory significance” for which the failure to adequately and promptly achieve correction may be expected to result in an enforcement action.

### **Recalls**

The FDA has the authority to require the recall of our products in the event of material deficiencies or defects in manufacture. A governmentally mandated recall, or a voluntary recall by us, could result from a number of events or

factors, including component failures, manufacturing errors, instability of product or defects in labeling.

### **Other FDA Regulations**

We are also subject to recordkeeping and reporting regulations. These regulations require, among other things, the reporting to the FDA of adverse events alleged to have been associated with the use of a product or in connection with certain product failures.

Labeling and promotional activities are also regulated by the FDA. We must also comply with record keeping requirements as well as requirements to report certain adverse events involving our products. The FDA can impose other post-marketing controls on us as well as our products including, but not limited to, restrictions on sale and use, through the approval process, regulations and otherwise.

## **Regulation Outside of the U.S.**

In addition to regulations in the U.S., we will be subject to regulations of other countries governing any clinical trials and commercial sales and distribution of our product candidates. Whether or not we obtain FDA approval for a product, we must obtain approval by the comparable regulatory authorities of countries outside of the U.S. before we can commence clinical trials in such countries and approval of the regulators of such countries or economic areas, such as the European Union and China, before we may market products in those countries or areas. The approval process and requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from place to place, and the time may be longer or shorter than that required for FDA approval.

Under European Union regulatory systems, a company may submit marketing authorization applications either under a centralized or decentralized procedure. The centralized procedure, which is compulsory for medicines produced by biotechnology or those medicines intended to treat AIDS, cancer, neurodegenerative disorders or diabetes and is optional for those medicines that are highly innovative, provides for the grant of a single marketing authorization that is valid for all European Union member states. The decentralized procedure provides for mutual recognition of national approval decisions. Under this procedure, the holder of a national marketing authorization may submit an application to the remaining member states. Within 90 days of receiving the applications and assessments report, each member state must decide whether to recognize approval. If a member state does not recognize the marketing authorization, the disputed points are eventually referred to the European Commission, whose decision is binding on all member states.

In 2011, the European Commission granted orphan drug designation for ThermoDox® for the treatment of HCC in Europe. As established by the EMA, orphan drug designation provides for scientific advice and regulatory assistance from the EMA, direct access to centralized marketing authorization and certain financial incentives, such as reduction of fees associated with pre-authorization inspections and marketing authorization application fees. The orphan drug designation in Europe also provides 10 years of market exclusivity subsequent to product approval.

## **MANUFACTURING AND SUPPLY**

We do not currently own or operate manufacturing facilities for the production of preclinical, clinical or commercial quantities of any of our product candidates. We currently contract with third party contract manufacturing organizations (CMOs) for our preclinical and clinical trial supplies, and we expect to continue to do so to meet the preclinical and any clinical requirements of our product candidates. We have agreements for the supply of such drug materials with manufacturers or suppliers that we believe have sufficient capacity to meet our demands. In addition, we believe that adequate alternative sources for such supplies exist. However, there is a risk that, if supplies are interrupted, it would materially harm our business. We typically order raw materials and services on a purchase order basis and do not enter into long-term dedicated capacity or minimum supply arrangements.

Manufacturing is subject to extensive regulations that impose various procedural and documentation requirements, which govern record keeping, manufacturing processes and controls, personnel, quality control and quality assurance, among others. Our CMOs manufacture our product candidates under current Good Manufacturing Practice (cGMP) conditions. cGMP is a regulatory standard for the production of pharmaceuticals that will be used in humans.

## **SALES AND MARKETING**

Our current focus is on the development of our existing portfolio, the completion of clinical trials and, if and where appropriate, the registration of our product candidates. We currently do not have marketing, sales and distribution capabilities. If we receive marketing and commercialization approval for any of our product candidates, we intend to market the product either directly or through strategic alliances and distribution agreements with third parties. The ultimate implementation of our strategy for realizing the financial value of our product candidates is dependent on the results of clinical trials for our product candidates, the availability of regulatory approvals and the ability to negotiate acceptable commercial terms with third parties.

## **PRODUCT LIABILITY AND INSURANCE**

Our business exposes us to potential product liability risks that are inherent in the testing, manufacturing and marketing of human therapeutic products. We presently have product liability insurance limited to \$10 million per incident, and if we were to be subject to a claim in excess of this coverage or to a claim not covered by our insurance and the claim succeeded, we would be required to pay the claim out of our own limited resources.

## COMPETITION

Competition in the discovery and development of new methods for treating and preventing disease is intense. We face, and will continue to face, intense competition from pharmaceutical and biotechnology companies, as well as academic and research institutions and government agencies both in the U.S. and abroad. We face significant competition from organizations pursuing the same or similar technologies used by us in our drug discovery efforts and from organizations developing pharmaceuticals that are competitive with our product candidates.

Most of our competitors, either alone or together with their collaborative partners, have substantially greater financial resources and larger research and development staffs than we do. In addition, most of these organizations, either alone or together with their collaborators, have significantly greater experience than we do in developing products, undertaking preclinical testing and clinical trials, obtaining FDA and other regulatory approvals of products, and manufacturing and marketing products. Mergers and acquisitions in the pharmaceutical industry may result in even more resources being concentrated among our competitors. These companies, as well as academic institutions, governmental agencies, and private research organizations, also compete with us in recruiting and retaining highly qualified scientific personnel and consultants. Our ability to compete successfully with other companies in the pharmaceutical and biotechnology field also depends on the status of our collaborations and on the continuing availability of capital to us.

### **ThermoDox®**

Although there are many drugs and devices marketed and under development for the treatment of cancer, the Company is not aware of any other heat activated drug delivery product either being marketed or in human clinical development.

### **GEN-1**

GEN-1's studied indications include ovarian cancer and glioblastoma multiforme (GBM) brain cancer.

In evaluating the competitive landscape for both indications, early stage indications are treated with chemotherapy (temozolomide, BCNU, CCNU for brain cancer; docetaxel, doxil and cisplatinum for ovarian cancer), while later stage ovarian and GBM cancer are treated with Bevacizumab - Avastin®, an anti-angiogenesis inhibitor. Avastin® is currently also being evaluated for early stage disease.

In product positioning for both indications, there currently is no direct immunotherapy competitor for GEN-1, which will be studied as an adjuvant to both chemotherapy standard of care regimens, as well as anti-angiogenesis compounds. To support these cases, we have conducted clinical studies in combination with chemotherapy for ovarian cancer, and preclinical studies in combination with both temozolomide and Bevacizumab-Avastin®. We plan to initiate clinical studies in the second half of 2015 for both indications.

## **INTELLECTUAL PROPERTY**

### **Licenses**

#### *Duke University License Agreement*

In 1999, we entered into a license agreement with Duke University under which we received exclusive rights, subject to certain exceptions, to commercialize and use Duke's thermo-liposome technology. In relation to these liposome patents licensed from Duke University, we have filed two additional patents related to the formulation and use of liposomes. We have also licensed from Valentis, CA certain global rights covering the use of pegylation for temperature sensitive liposomes.

In 2003, our obligations under the license agreement with Duke University with respect to the testing and regulatory milestones and other licensed technology performance deadlines were eliminated in exchange for a payment of shares of our common stock. The license agreement continues to be subject to agreements to pay a royalty based upon future sales. In conjunction with the patent holder, we have filed international applications for a certain number of the United States patents.



Our rights under the license agreement with Duke University extend for the longer of 20 years or the end of any term for which any relevant patents are issued by the United States Patent and Trademark Office. Currently we have rights to Duke's patent for its thermo-liposome technology in the United States, which expires in 2018, and to future patents received by Duke in Canada, Europe, Japan and Australia, where it has patent applications have been granted. The European grant provides coverage in the European Community. For this technology, our license rights are worldwide, including the United States, Canada, certain European countries, Australia, Hong Kong, and Japan.

### **Patents and Proprietary Rights**

On February 5, 2013, Celsion announced that its proprietary patent application, "Method of Storing Nanoparticle Formulations," had been allowed in China and granted in South Korea and Australia. Celsion holds an exclusive license agreement with Duke University for its temperature-sensitive liposome technology that covers the ThermoDox® formulation. Celsion's newly issued patents pertain specifically to methods of storing stabilized, temperature-sensitive liposomal formulations and will assist in the protection of global rights. These patents will extend the overall term of the ThermoDox® patent portfolio to 2026. The patents in these three countries are the first in this family, which includes pending applications in the U.S., Europe and additional key commercial geographies in Asia. This extended patent runway to 2026 allows for the evaluation of future development activities for ThermoDox® and Celsion's heat-sensitive liposome technology platform.

For the ThermoDox technology, we either exclusively license or own US and international patents with claims and methods and compositions of matters that cover various aspects of LTSL technology, with expiration dates ranging from 2019 to 2026.

For the TheraPlas technology, we own three US and international patent families and related applications with claims and methods and compositions of matters that cover various aspects of TheraPlas and GEN-1 technologies, with expiration dates ranging from 2020 to 2028.

For the TheraSilence technology, we own multiple US and international patent families and related applications with claims and methods and compositions of matters that cover various aspects of TheraSilence technology, with expiration dates to 2031.

For the RAST technology, we own US and international patents with claims and methods and compositions of matters that cover various aspects of RAST technology, with expiration dates to 2030.

There can be no assurance that an issued patent will remain valid and enforceable in a court of law through the entire patent term. Should the validity of a patent be challenged, the legal process associated with defending the patent can be costly and time consuming. Issued patents can be subject to oppositions, interferences and other third party challenges that can result in the revocation of the patent or maintenance of the patent in amended form (and potentially in a form that renders the patent without commercially relevant or broad coverage). Competitors may be able to circumvent our patents. Development and commercialization of pharmaceutical products can be subject to substantial delays and it is possible that at the time of commercialization any patent covering the product has expired or will be in force for only a short period of time following commercialization. We cannot predict with any certainty if any third party U.S. or foreign patent rights, other proprietary rights, will be deemed infringed by the use of our technology. Nor can we predict with certainty which, if any, of these rights will or may be asserted against us by third parties. Should we need to defend ourselves and our partners against any such claims, substantial costs may be incurred. Furthermore, parties making such claims may be able to obtain injunctive or other equitable relief, which could effectively block our ability to develop or commercialize some or all of our products in the U.S. and abroad, and could result in the award of substantial damages. In the event of a claim of infringement, we or our partners may be required to obtain one or more licenses from a third party. There can be no assurance that we can obtain a license on a reasonable basis should we deem it necessary to obtain rights to an alternative technology that meets our needs. The failure to obtain a license may have a material adverse effect on our business, results of operations and financial condition.

In addition to the rights available to us under completed or pending license agreements, we rely on our proprietary know-how and experience in the development and use of heat for medical therapies, which we seek to protect, in part, through proprietary information agreements with employees, consultants and others. There can be no assurance that these proprietary information agreements will not be breached, that we will have adequate remedies for any breach, or that these agreements, even if fully enforced, will be adequate to prevent third-party use of the Company's proprietary technology. Please refer to Item 1A, Risk Factors, including, but not limited to, "We rely on trade secret protection and other unpatented proprietary rights for important proprietary technologies, and any loss of such rights could harm our business, results of operations and financial condition." Similarly, we cannot guarantee that technology rights licensed to us by others will not be successfully challenged or circumvented by third parties, or that the rights granted will provide us with adequate protection. Please refer to Item 1A, Risk Factors, including, but not limited to, "Our business depends on licensing agreements with third parties to permit us to use patented technologies. The loss of any of our rights under these agreements could impair our ability to develop and market our products."

## **EMPLOYEES**

As of March 11, 2015, we employed 28 full-time employees. We also maintain active independent contractor relationships with various individuals, most of whom have month-to-month or annual consulting agreements. None of our employees are covered by a collective bargaining agreement, and we consider our relations with our employees to be good.

## **COMPANY INFORMATION**

Celsion was founded in 1982 and is a Delaware corporation. Our principal executive offices are located at 997 Lenox Drive, Suite 100, Lawrenceville, NJ 08648. Our telephone number is (609) 896-9100. The Company's website is [www.celsion.com](http://www.celsion.com). The information contained in, or that can be accessed through, our website is not part of, and is not incorporated in, this Annual Report on Form 10-K.

## **AVAILABLE INFORMATION**

We make available free of charge through our website, [www.celsion.com](http://www.celsion.com), our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and all amendments to those reports as soon as reasonably practicable after such material is electronically filed with or furnished to the Securities and Exchange Commission (the SEC). In addition, our website includes other items related to corporate governance matters, including, among other things, our corporate governance principles, charters of various committees of the Board of Directors, and our code of business conduct and ethics applicable to all employees, officers and directors. We intend to disclose on our internet website any amendments to or waivers from our code of business conduct and ethics as

well as any amendments to its corporate governance principles or the charters of various committees of the Board of Directors. Copies of these documents may be obtained, free of charge, from our website. In addition, copies of these documents will be made available free of charge upon written request. The public may read and copy any materials filed with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an internet site that contains reports, proxy and information statements and other information regarding issuers that file periodic and other reports electronically with the Securities and Exchange Commission. The address of that site is [www.sec.gov](http://www.sec.gov). The information available on or through our website is not a part of this Annual Report on Form 10-K and should not be relied upon.

## **LIQUIDITY AND CAPITAL RESOURCES**

During 2014 and 2013, we issued a total of 8.0 million shares of common stock; including shares of common stock issued upon conversion of the 15,000.00422 shares of Series A 0% convertible preferred stock, in the following equity transactions for an aggregate \$46.6 million in gross proceeds. On October 28, 2013, we effected a 4.5-to-1 reverse stock split of our common stock. Unless otherwise expressly stated, the share and per share data in this section and elsewhere in this Annual Report on Form 10-K have been adjusted to reflect the reverse stock split.

On February 1, 2013, we entered into a Controlled Equity Offering<sup>SM</sup> Sales Agreement (ATM) with Cantor Fitzgerald & Co., as sales agent, pursuant to which we may offer and sell, from time to time through “at-the-market” offerings, shares of our common stock having an aggregate offering price of up to \$25.0 million. From February 1, 2013 through February 25, 2013, we sold and issued an aggregate of 1,195,923 shares of common stock under such agreement for approximately \$6.8 million in aggregate gross proceeds.

On February 22, 2013, we entered into a Securities Purchase Agreement with certain institutional investors, pursuant to which we sold, in a registered direct offering, an aggregate of 15,000.00422 shares of our Series A 0% convertible preferred stock and warrants to purchase up to 1,341,382 shares of common stock, for an aggregate purchase price of approximately \$15.0 million in gross proceeds. All of the shares of Series A 0% convertible preferred stock have been converted into 2,682,764 shares of common stock.

On May 30, 2013, we entered into a Securities Purchase Agreement with certain institutional investors, pursuant to which we sold, in a registered direct offering, an aggregate of 1,392,109 shares of our common stock for an aggregate purchase price of approximately \$9.8 million in gross proceeds.

On January 15, 2014, we entered into a Securities Purchase Agreement with certain institutional investors, pursuant to which the Company sold, in a registered offering, an aggregate of 3,603,604 shares of its common stock and warrants to purchase up to 1,801,802 shares of Common Stock, for an aggregate purchase price of approximately \$15 million.

During 2013, we received gross proceeds of approximately \$0.4 million from the exercise of warrants and common stock options to purchase 30,499 shares of common stock.

On June 20, 2014, we completed the acquisition of substantially all of the assets of EGEN, Inc. At the closing, we paid approximately \$3.0 million in cash and issued 2,712,188 shares of its common stock to EGEN. In addition, 670,070 shares of common stock are issuable to EGEN on or after August 2, 2016 pending satisfactory resolution of any post-closing adjustments of expenses and EGEN’s indemnification obligations under the EGEN Purchase Agreement

In addition, we entered into a loan agreement on November 25, 2013 with Hercules Technology Growth Capital, Inc. (Hercules), pursuant to which we may borrow a secured term loan of up to \$20 million in multiple tranches (the Hercules Credit Agreement). The loan bears interest at a floating per annum rate equal to the greater of (i) 11.25 percent and (ii) the sum of 11.25 percent plus the prime rate minus 3.25 percent. Payments under the loan agreement are interest only for the first twelve months after loan closing, followed by a 30-month amortization period of principal and interest through the scheduled maturity date. We drew the first tranche of \$5 million on November 25, 2013 and may request, subject to Hercules’ consent in its sole discretion, an additional \$15 million in up to three advances with each advance in a minimum amount of \$5 million before June 30, 2014 unless extended upon Hercules’ consent. We used approximately \$4 million of the first tranche to repay the outstanding obligations under a loan agreement with Oxford Finance LLC and Horizon Technology Finance Corporation. On June 9, 2014, we borrowed

an additional \$5 million and used the loan proceeds to pay the upfront cash payment to EGEN at closing and certain transaction costs incurred in connection with the acquisition.

We believe that our cash and investment resources of \$37.1 million on hand at December 31, 2014, coupled with our access to the ATM, are sufficient to fund operations through 2016. However, our future capital requirements will depend upon numerous unpredictable factors, including, without limitation, the cost, timing, progress and outcomes of clinical studies and regulatory reviews of our proprietary drug candidates, our efforts to implement new collaborations, licenses and strategic transactions, general and administrative expenses, capital expenditures and other unforeseen uses of cash. To complete the development and commercialization of our products, we will need to raise substantial amounts of additional capital to fund our operations. We do not have any committed sources of financing and cannot give assurance that alternate funding will be available in a timely manner, on acceptable terms or at all. We may need to pursue dilutive equity financings, such as the issuance of shares of common stock, preferred stock, convertible debt or other convertible or exercisable securities, which financings could dilute the percentage ownership of our current common stockholders and could significantly lower the market value of our common stock.

## RECENT EVENTS

On January 13, 2015, we entered into an Early Access Agreement with Impatiens N.V., a Netherlands company (Impatiens), pursuant to which Impatiens will develop and execute through its brand myTomorrows an early access program for ThermoDox® in all countries of the European Union territory, Iceland, Liechtenstein, Norway and Switzerland (the Territory) for the treatment of patients with RCW breast cancer. Under the early access program, Impatiens will engage in activities to secure authorization, exemption or waiver from regulatory authorities for patient use of ThermoDox® that may otherwise be subject to approvals from such regulatory authorities before the sale and distribution of ThermoDox® in the relevant territories. We will be responsible for the manufacture and supply of quantities of ThermoDox® to Impatiens for use in the early access program and Impatiens will distribute and sell ThermoDox® pursuant to such authorization, exemptions or waivers.

Under the Early Access Agreement, we granted to Impatiens, specifically for the treatment of RCW breast cancer in the Territory, an exclusive, royalty-free right to perform the early access program activities, reference regulatory documentation and approvals that we own, and use our trademarks relating to ThermoDox®. In addition, we granted to Impatiens an option to negotiate an exclusive license to distribute ThermoDox® in the Territory after ThermoDox® receives regulatory approval in a country within the Territory.

In consideration for Impatiens' services to implement the early access program and in the event we receive regulatory authorization to sell, distribute or market ThermoDox® in the Territory, we will be obligated to pay Impatiens, subject to a maximum cap, a low single-digit royalty of net sales of ThermoDox® in the countries where such regulatory authorization has been obtained. The Early Access Agreement has a term of five years, with automatic renewals for consecutive two-year periods, unless earlier terminated by either party with notice or in the event of material breach, bankruptcy, or insolvency without notice.

## ITEM 1A. RISK FACTORS

*We are providing the following cautionary discussion of risk factors, uncertainties and assumptions that we believe are relevant to our business. These are factors that, individually or in the aggregate, we think could cause our actual results to differ significantly from expected or historical results and our forward-looking statements. We note these factors for investors as permitted by Section 21E of the Securities Exchange Act of 1934, as amended (Exchange Act), and Section 27A of the Securities Act of 1933, as amended (Securities Act). You should understand that it is not possible to predict or identify all such factors. Consequently, you should not consider the following to be a complete discussion of all potential risks or uncertainties that may impact our business. Moreover, we operate in a competitive and rapidly changing environment. New factors emerge from time to time and it is not possible to predict the impact of all of these factors on our business, financial condition or results of operations. We undertake no obligation to publicly update forward-looking statements, whether as a result of new information, future events, or otherwise.*

### RISKS RELATED TO OUR BUSINESS

**We have a history of significant losses from operations and expect to continue to incur significant losses for the foreseeable future.**

Since our inception, our expenses have substantially exceeded our revenue, resulting in continuing losses and an accumulated deficit of \$195 million at December 31, 2014. For the years ended December 31, 2012, 2013 and 2014, we incurred a net loss of \$25.5 million, \$8.3 million and \$25.2 million, respectively. We currently have no product revenue and do not expect to generate any product revenue for the foreseeable future other than through the sale of our proprietary reagent products for life science research, which products are based on our newly acquired proprietary delivery platform technologies, TheraPlas™ and TheraSilence™. Because we are committed to continuing our product research, development, clinical trial and commercialization programs, we will continue to incur significant operating losses unless and until we complete the development of ThermoDox®, GEN-1 (formerly known as EGEN-001) and other new product candidates and these product candidates have been clinically tested, approved by the U.S. Food and Drug Administration (FDA) and successfully marketed. The amount of future losses is uncertain. Our ability to achieve profitability, if ever, will depend on, among other things, us or our collaborators successfully developing product candidates, obtaining regulatory approvals to market and commercialize product candidates, manufacturing any approved products on commercially reasonable terms, establishing a sales and marketing organization or suitable third party alternatives for any approved product and raising sufficient funds to finance business activities. If we or our collaborators are unable to develop and commercialize one or more of our product candidates or if sales revenue from any product candidate that receives approval is insufficient, we will not achieve profitability, which could have a material adverse effect on our business, financial condition, results of operations and prospects.

**Drug development is an inherently uncertain process with a high risk of failure at every stage of development. Our lead drug candidate failed to meet its primary endpoint in the Phase III HEAT study.**



On January 31, 2013, we announced that our lead product ThermoDox® in combination with radiofrequency ablation (RFA) failed to meet the primary endpoint of the Phase III clinical trial for primary liver cancer, known as the HEAT study. We have not completed our final analysis of the data and do not know the extent to which, if any, the failure of ThermoDox® to meet its primary endpoint in the Phase III trial could impact our other ongoing studies of ThermoDox® including a pivotal, double-blind, placebo-controlled Phase III trial of ThermoDox® in combination with RFA in primary liver cancer, known as the OPTIMA study, which we launched in the first half of 2014. The trial design of the OPTIMA study is based on the overall survival data from the post-hoc analysis of results from the HEAT study. ThermoDox® is also being evaluated in a Phase II clinical trial for recurrent chest wall breast cancer and other preclinical studies.

Preclinical testing and clinical trials are long, expensive and highly uncertain processes and failure can unexpectedly occur at any stage of clinical development, as evidenced by the failure of ThermoDox® to meet its primary endpoint in the HEAT study. Drug development is inherently risky and clinical trials take us several years to complete. The start or end of a clinical trial is often delayed or halted due to changing regulatory requirements, manufacturing challenges, required clinical trial administrative actions, slower than anticipated patient enrollment, changing standards of care, availability or prevalence of use of a comparator drug or required prior therapy, clinical outcomes including insufficient efficacy, safety concerns, or our own financial constraints. The results from preclinical testing or early clinical trials of a product candidate may not predict the results that will be obtained in later phase clinical trials of the product candidate. We, the FDA or other applicable regulatory authorities may suspend clinical trials of a product candidate at any time for various reasons, including a belief that subjects participating in such trials are being exposed to unacceptable health risks or adverse side effects. We may not have the financial resources to continue development of, or to enter into collaborations for, a product candidate if we experience any problems or other unforeseen events that delay or prevent regulatory approval of, or our ability to commercialize, product candidates. The failure of one or more of our drug candidates or development programs could have a material adverse effect on our business, financial condition and results of operations.

**If we do not obtain or maintain FDA and foreign regulatory approvals for our drug candidates on a timely basis, or at all, or if the terms of any approval impose significant restrictions or limitations on use, we will be unable to sell those products and our business, results of operations and financial condition will be negatively affected.**

To obtain regulatory approvals from the FDA and foreign regulatory agencies, we must conduct clinical trials demonstrating that our products are safe and effective. We may need to amend ongoing trials or the FDA and/or foreign regulatory agencies may require us to perform additional trials beyond those we planned. This process generally takes a number of years and requires the expenditure of substantial resources. The time required for completing testing and obtaining approvals is uncertain, and the FDA and foreign regulatory agencies have substantial discretion, at any phase of development, to terminate clinical studies, require additional clinical development or other testing, delay or withhold registration and marketing approval and mandate product withdrawals, including recalls. In addition, undesirable side effects caused by our drug candidates could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restricted label or the delay or denial of regulatory approval by regulatory authorities. Even if we receive regulatory approval of a product, the approval may limit the indicated uses for which the drug may be marketed. The failure to obtain timely regulatory approval of product candidates, any product marketing limitations or a product withdrawal would negatively impact our business, results of operations and financial condition.

**We do not expect to generate revenue for the foreseeable future.**

We have devoted our resources to developing a new generation of products and will not be able to market these products until we have completed clinical trials and obtain all necessary governmental approvals. Our lead product candidate, ThermoDox® and the product candidates we purchased in our acquisition of EGEN are still in various stages of development and trials and cannot be marketed until we have completed clinical testing and obtained necessary governmental approval. Following our announcement on January 31, 2013 that the HEAT study failed to meet its primary endpoint of progression free survival, we continue to follow the patients enrolled in the Heat study to the secondary endpoint, overall survival. Based on the overall survival data from the post-hoc analysis of results from the HEAT study, we launched a pivotal, double-blind, placebo-controlled Phase III trial of ThermoDox® in combination with RFA in primary liver cancer, known as the OPTIMA study, in the first half of 2014. ThermoDox® is currently also being evaluated in a Phase II clinical trial for the treatment of recurrent chest wall breast cancer, known as the DIGNITY Study, and other preclinical studies. GEN-1 is currently in an early stage of clinical development for the treatment of ovarian cancer, and we plan to initial a Phase I dose-escalation clinical trial of GEN-1 in combination with the standard of care in neo-adjuvant ovarian cancer in the second half of . The delivery technology platforms that we purchased from EGEN are in preclinical stages of development. We do not expect to realize any revenue from product sales in the next several years, if at all, other than the sale of reagent products we acquired from EGEN. Accordingly, our revenue sources are, and will remain, extremely limited until our product candidates are clinically tested, approved by the FDA or foreign regulatory agencies and successfully marketed. We cannot guarantee that any of our product candidates will be successfully tested, approved by the FDA or foreign regulatory agency or marketed, successfully or otherwise, at any time in the foreseeable future or at all.

**We will need to raise substantial additional capital to fund our planned future operations, and we may be unable to secure such capital without dilutive financing transactions. If we are not able to raise additional capital, we may not be able to complete the development, testing and commercialization of our product candidates.**

As of December 31, 2014, we had approximately \$ 37.1 million in cash, cash equivalents and short-term investments. We have substantial future capital requirements to continue our research and development activities and advance our drug candidates through various development stages, including the product candidates and technology platforms that we purchased from EGEN in June 2014. For example, ThermoDox® is being evaluated in a Phase III clinical trial in combination with RFA for the treatment of primary liver cancer, a Phase II clinical trial for the treatment of recurrent chest wall breast cancer and other preclinical studies. We plan to initial a Phase I dose-escalation clinical trial of GEN-1 in combination with the standard of care in neo-adjuvant ovarian cancer in the second half of 2015. The delivery technology platforms that we purchased from EGEN are in preclinical stages of development. We will continue to conduct additional analyses of the data from the HEAT study to assess the future strategic value of ThermoDox® and are performing sub-group analysis of the Chinese cohort of patients in the HEAT study and other activities for further development of ThermoDox® for mainland China, Hong Kong and Macau. To complete the development and commercialization of our product candidates, we will need to raise substantial amounts of additional capital to fund our operations. Our future capital requirements will depend upon numerous unpredictable factors, including, without limitation, the cost, timing, progress and outcomes of clinical studies and regulatory reviews of our proprietary drug candidates, our efforts to implement new collaborations, licenses and strategic transactions, general and administrative expenses, capital expenditures and other unforeseen uses of cash. We do not have any committed sources of financing and cannot assure you that alternate funding will be available in a timely manner, on acceptable terms or at all. We may need to pursue dilutive equity financings, such as the issuance of shares of common stock, convertible debt or other convertible or exercisable securities. Such dilutive equity financings could dilute the percentage ownership of our current common stockholders and could significantly lower the market value of our common stock. In addition, a financing could result in the issuance of new securities that may have rights, preferences or privileges senior to those of our existing stockholders.

If we are unable to obtain additional capital on a timely basis or on acceptable terms, we may be required to delay, reduce or terminate our research and development programs and preclinical studies or clinical trials, if any, limit strategic opportunities or undergo corporate restructuring activities. We also could be required to seek funds through arrangements with collaborators or others that may require us to relinquish rights to some of our technologies, product candidates or potential markets or that could impose onerous financial or other terms. Furthermore, if we cannot fund our ongoing development and other operating requirements, particularly those associated with our obligations to conduct clinical trials under our licensing agreements, we will be in breach of these licensing agreements and could therefore lose our license rights, which could have material adverse effects on our business.

**Failure to successfully integrate the assets we acquired from EGEN in June 2014 into our operations could adversely affect our ability to develop and commercialize product candidates or negatively impact our business, results of operations and financial conditions.**

On June 20, 2014, we completed the acquisition of substantially all of the assets of EGEN, a privately-held biopharmaceutical company focused on the development of nucleic acid-based therapeutics for the treatment of cancer and other difficult to treat diseases. The acquisition included EGEN's Phase Ib DNA-based immunotherapy product candidate GEN-1 (formerly known as EGEN-001) and its therapeutic platform technologies, TheraPlas™ for delivery of DNA and mRNA, and TheraSilence™ for delivery of RNA. The success of the EGEN acquisition, including the realization of anticipated benefits and cost savings, will depend, in part, on our ability to combine successfully the business we acquired from EGEN with the business of Celsion. Our integration of the acquired operations and product candidates requires significant efforts, including the coordination of research and development, manufacturing, finance, information technologies and management and administration. These integration efforts will result in additional expenses and require significant time and dedication from management, and may divert management attention and resources. The integration may be more difficult, costly or time consuming than expected. It is possible that the integration process could result in the loss of key employees or the disruption of our ongoing business or that the alignment of standards, controls, procedures and policies may adversely affect the combined company's ability to maintain relationships with suppliers, manufacturers, other vendors or employees or to fully achieve the anticipated benefits and cost savings of the transaction.

In addition, the EGEN acquisition may result in our assumption of material unknown or unexpected liabilities. If we experience difficulties with the integration process, the anticipated benefits of the transaction may not be realized fully or at all, or may take longer to realize than expected to materialize. Factors that will affect the success of the acquisition include our ability to execute our business strategy, results of clinical trials and regulatory approvals related to the acquired product candidates and platform technologies, our ability to adequately fund acquired in-process research and development projects and retain key employees, as well as our ability to achieve financial and operational synergies with the acquired business, such as by achieving cost savings and effectively developing product candidates. Our failure to successfully manage and coordinate the growth of our newly acquired business could have a material adverse impact on our business, results of operations and financial condition. In addition, we cannot be certain that the product candidates we acquired will be approved for marketing and commercialization, become profitable or remain so or that we will realize operational cost savings or other expected synergies of the acquisition. If the acquisition and integration are not successful, we may record related asset impairment charges in the future.



**We have incurred, and will continue to incur, significant costs in connection with our acquisition of substantially all of the assets of EGEN.**

We have incurred and expect to continue to incur a number of non-recurring costs associated with our integration of the assets purchased from EGEN. These costs and expenses include the incurrence of \$5.0 million of new indebtedness and approximately \$1.4 million in financial advisory, legal, accounting, consulting and other advisory fees and expenses, reorganization and restructuring costs, severance/employee benefit-related expenses, filing fees, printing expenses and other related charges. There are also a large number of processes, policies, procedures, operations, technologies and systems that must be integrated in connection with the acquisition. There are many factors beyond our control that could affect the total amount or the timing of integration and implementation expense, and we may incur unanticipated expense in connection with the EGEN acquisition. These costs and expenses could, particularly in the near term, exceed the cost savings that we expect to achieve from the elimination of duplicative expenses and the realization of economies of scale, other efficiencies and cost savings, which benefit may not be achieved in the near term or at all.

**We may not successfully engage in future strategic transactions, which could adversely affect our ability to develop and commercialize product candidates, impact our cash position, increase our expense and present significant distractions to our management.**

In the future, we may consider strategic alternatives intended to further the development of our business, which may include acquiring businesses, technologies or products, out- or in-licensing product candidates or technologies or entering into a business combination with another company. Any strategic transaction may require us to incur non-recurring or other charges, increase our near- and long-term expenditures and pose significant integration or implementation challenges or disrupt our management or business. These transactions would entail numerous operational and financial risks, including exposure to unknown liabilities, disruption of our business and diversion of our management's time and attention in order to manage a collaboration or develop acquired products, product candidates or technologies, incurrence of substantial debt or dilutive issuances of equity securities to pay transaction consideration or costs, higher than expected collaboration, acquisition or integration costs, write-downs of assets or goodwill or impairment charges, increased amortization expenses, difficulty and cost in facilitating the collaboration or combining the operations and personnel of any acquired business, impairment of relationships with key suppliers, manufacturers or customers of any acquired business due to changes in management and ownership and the inability to retain key employees of any acquired business. Accordingly, although there can be no assurance that we will undertake or successfully complete any transactions of the nature described above, any transactions that we do complete may be subject to the foregoing or other risks and have a material adverse effect on our business, results of operations, financial condition and prospects. Conversely, any failure to enter any strategic transaction that would be beneficial to us could delay the development and potential commercialization of our product candidates and have a negative impact on the competitiveness of any product candidate that reaches market.

Strategic transactions, such as acquisitions, partnerships and collaborations, including the EGEN acquisition, involve numerous risks, including:

- the failure of markets for the products of acquired businesses, technologies or product lines to develop as expected;
- uncertainties in identifying and pursuing acquisition targets;
- the challenges in achieving strategic objectives, cost savings and other benefits expected from acquisitions;
  - the risk that the financial returns on acquisitions will not support the expenditures incurred to acquire such businesses or the capital expenditures needed to develop such businesses;
- difficulties in assimilating the acquired businesses, technologies or product lines;
- the failure to successfully manage additional business locations, including the additional infrastructure and resources necessary to support and integrate such locations;
- the existence of unknown product defects related to acquired businesses, technologies or product lines that may not be identified due to the inherent limitations involved in the due diligence process of an acquisition;

- the diversion of management's attention from other business concerns;
- risks associated with entering markets or conducting operations with which we have no or limited direct prior experience;
- risks associated with assuming the legal obligations of acquired businesses, technologies or product lines;
- risks related to the effect that internal control processes of acquired businesses might have on our financial reporting and management's report on our internal control over financial reporting;
- the potential loss of key employees related to acquired businesses, technologies or product lines; and
- the incurrence of significant exit charges if products or technologies acquired in business combinations are unsuccessful.

We may never realize the perceived benefits of the EGEN acquisition or potential future transactions. We cannot assure you that we will be successful in overcoming problems encountered in connection with any transactions, and our inability to do so could significantly harm our business, results of operations and financial condition. These transactions could dilute a stockholder's investment in us and cause us to incur debt, contingent liabilities and amortization/impairment charges related to intangible assets, all of which could materially and adversely affect our business, results of operations and financial condition. In addition, our effective tax rate for future periods could be negatively impacted by the EGEN acquisition or potential future transactions.

**Our business depends on license agreements with third parties to permit us to use patented technologies. The loss of any of our rights under these agreements could impair our ability to develop and market our products.**

Our success will depend, in a substantial part, on our ability to maintain our rights under license agreements granting us rights to use patented technologies. For instance, we are party to license agreements with Duke University, under which we have exclusive rights to commercialize medical treatment products and procedures based on Duke's thermo-sensitive liposome technology. The Duke University license agreement contains a license fee, royalty and/or research support provisions, testing and regulatory milestones, and other performance requirements that we must meet by certain deadlines. Additionally, we have a joint research agreement with Philips Healthcare, a division of Royal Philips Electronics, to evaluate the combination of Philips' high intensity focused ultrasound (HIFU) with ThermoDox® to determine the potential of this combination to treat a broad range of cancers. If we breach any provisions of the license and research agreements, we may lose our ability to use the subject technology, as well as compensation for our efforts in developing or exploiting the technology. Any such loss of rights and access to technology could have a material adverse effect on our business.



Further, we cannot guarantee that any patent or other technology rights licensed to us by others will not be challenged or circumvented successfully by third parties, or that the rights granted will provide adequate protection. We may be required to alter any of our potential products or processes, or enter into a license and pay licensing fees to a third party or cease certain activities. There can be no assurance that we can obtain a license to any technology that we determine we need on reasonable terms, if at all, or that we could develop or otherwise obtain alternate technology. If a license is not available on commercially reasonable terms or at all, our business, results of operations, and financial condition could be significantly harmed and we may be prevented from developing and commercializing the product. Litigation, which could result in substantial costs, may also be necessary to enforce any patents issued to or licensed by us or to determine the scope and validity of others' claimed proprietary rights.

**If any of our pending patent applications do not issue, or are deemed invalid following issuance, we may lose valuable intellectual property protection.**

The patent positions of pharmaceutical and biotechnology companies, such as ours, are uncertain and involve complex legal and factual issues. We own various U.S. and international patents and have pending U.S. and international patent applications that cover various aspects of our technologies. There can be no assurance that patents that have issued will be held valid and enforceable in a court of law through the entire patent term. Even for patents that are held valid and enforceable, the legal process associated with obtaining such a judgment is time consuming and costly. Additionally, issued patents can be subject to opposition, interferences or other proceedings that can result in the revocation of the patent or maintenance of the patent in amended form (and potentially in a form that renders the patent without commercially relevant or broad coverage). Further, our competitors may be able to circumvent and otherwise design around our patents. Even if a patent is issued and enforceable, because development and commercialization of pharmaceutical products can be subject to substantial delays, patents may expire early and provide only a short period of protection, if any, following the commercialization of products encompassed by our patents. We may have to participate in interference proceedings declared by the U.S. Patent and Trademark Office, which could result in a loss of the patent and/or substantial cost to us.

We have filed patent applications, and plan to file additional patent applications, covering various aspects of our technologies and our proprietary product candidates. There can be no assurance that the patent applications for which we apply would actually issue as patents, or do so with commercially relevant or broad coverage. The coverage claimed in a patent application can be significantly reduced before the patent is issued. The scope of our claim coverage can be critical to our ability to enter into licensing transactions with third parties and our right to receive royalties from our collaboration partnerships. Since publication of discoveries in scientific or patent literature often lags behind the date of such discoveries, we cannot be certain that we were the first inventor of inventions covered by our patents or patent applications. In addition, there is no guarantee that we will be the first to file a patent application directed to an invention.

An adverse outcome in any judicial proceeding involving intellectual property, including patents, could subject us to significant liabilities to third parties, require disputed rights to be licensed from or to third parties or require us to cease using the technology in dispute. In those instances where we seek an intellectual property license from another, we may not be able to obtain the license on a commercially reasonable basis, if at all, thereby raising concerns on our ability to freely commercialize our technologies or products.

**We rely on trade secret protection and other unpatented proprietary rights for important proprietary technologies, and any loss of such rights could harm our business, results of operations and financial condition.**

We rely on trade secrets and confidential information that we seek to protect, in part, by confidentiality agreements with our corporate partners, collaborators, employees and consultants. We cannot assure you that these agreements are adequate to protect our trade secrets and confidential information or will not be breached or, if breached, we will have adequate remedies. Furthermore, others may independently develop substantially equivalent confidential and proprietary information or otherwise gain access to our trade secrets or disclose such technology. Any loss of trade secret protection or other unpatented proprietary rights could harm our business, results of operations and financial condition.

**Our products may infringe patent rights of others, which may require costly litigation and, if we are not successful, could cause us to pay substantial damages or limit our ability to commercialize our products.**

Our commercial success depends on our ability to operate without infringing the patents and other proprietary rights of third parties. There may be third party patents that relate to our products and technology. We may unintentionally infringe upon valid patent rights of third parties. Although we currently are not involved in any material litigation involving patents, a third party patent holder may assert a claim of patent infringement against us in the future. Alternatively, we may initiate litigation against the third party patent holder to request that a court declare that we are not infringing the third party's patent and/or that the third party's patent is invalid or unenforceable. If a claim of infringement is asserted against us and is successful, and therefore we are found to infringe, we could be required to pay damages for infringement, including treble damages if it is determined that we knew or became aware of such a

patent and we failed to exercise due care in determining whether or not we infringed the patent. If we have supplied infringing products to third parties or have licensed third parties to manufacture, use or market infringing products, we may be obligated to indemnify these third parties for damages they may be required to pay to the patent holder and for any losses they may sustain.

We can also be prevented from selling or commercializing any of our products that use the infringing technology in the future, unless we obtain a license from such third party. A license may not be available from such third party on commercially reasonable terms, or may not be available at all. Any modification to include a non-infringing technology may not be possible or if possible may be difficult or time-consuming to develop, and require revalidation, which could delay our ability to commercialize our products. Any infringement action asserted against us, even if we are ultimately successful in defending against such action, would likely delay the regulatory approval process of our products, harm our competitive position, be expensive and require the time and attention of our key management and technical personnel.

**We rely on third parties to conduct all of our clinical trials. If these third parties are unable to carry out their contractual duties in a manner that is consistent with our expectations, comply with budgets and other financial obligations or meet expected deadlines, we may not receive certain development milestone payments or be able to obtain regulatory approval for or commercialize our product candidates in a timely or cost-effective manner.**

We rely, and expect to continue to rely, on third-party clinical investigators, clinical research organizations (CROs), clinical data management organizations and consultants to design, conduct, supervise and monitor our clinical trials. Because we do not have the ability to conduct our own clinical trials, we must rely on the efforts of others and have limited control over, and cannot predict accurately, the timing of such trials, the costs associated with such trials or the procedures that are followed for such trials. We do not expect to significantly increase our personnel in the foreseeable future and may continue to rely on third parties to conduct all of our future clinical trials. If we cannot contract with acceptable third parties on commercially reasonable terms or at all, if these third parties are unable to carry out their contractual duties or obligations in a manner that is consistent with our expectations or meet expected deadlines, if they do not carry out the trials in accordance with budgeted amounts, if the quality or accuracy of the clinical data they obtain is compromised due to their failure to adhere to our clinical protocols or for other reasons, or if they fail to maintain compliance with applicable government regulations and standards, our clinical trials may be extended, delayed or terminated or may become significantly more expensive, we may not receive development milestone payments when expected or at all, and we may not be able to obtain regulatory approval for or successfully commercialize our product candidates.

In all events, we are responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan and protocols for the trial. The FDA requires clinical trials to be conducted in accordance with good clinical practices, including for conducting, recording and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity and confidentiality of clinical trial participants are protected. Our reliance on third parties that we do not control does not relieve us of these responsibilities and requirements. Any such event could have a material adverse effect on our business, financial condition, results of operations and prospects.

**Because we rely on third party manufacturing and supply partners, our supply of research and development, preclinical and clinical development materials may become limited or interrupted or may not be of satisfactory quantity or quality.**

We rely on third party supply and manufacturing partners to supply the materials and components for, and manufacture, our research and development, preclinical and clinical trial drug supplies. We do not own manufacturing facilities or supply sources for such components and materials. There can be no assurance that our supply of research and development, preclinical and clinical development drugs and other materials will not be limited, interrupted, restricted in certain geographic regions or of satisfactory quality or continue to be available at acceptable prices. Suppliers and manufacturers must meet applicable manufacturing requirements and undergo rigorous facility and process validation tests required by FDA and foreign regulatory authorities in order to comply with regulatory

standards, such as current Good Manufacturing Practices. In the event that any of our suppliers or manufacturers fails to comply with such requirements or to perform its obligations to us in relation to quality, timing or otherwise, or if our supply of components or other materials becomes limited or interrupted for other reasons, we may be forced to manufacture the materials ourselves, for which we currently do not have the capabilities or resources, or enter into an agreement with another third party, which we may not be able to do on reasonable terms, if at all.

**Our business is subject to numerous and evolving state, federal and foreign regulations and we may not be able to secure the government approvals needed to develop and market our products.**

Our research and development activities, pre-clinical tests and clinical trials, and ultimately the manufacturing, marketing and labeling of our products, are all subject to extensive regulation by the FDA and foreign regulatory agencies. Pre-clinical testing and clinical trial requirements and the regulatory approval process typically take years and require the expenditure of substantial resources. Additional government regulation may be established that could prevent or delay regulatory approval of our product candidates. Delays or rejections in obtaining regulatory approvals would adversely affect our ability to commercialize any product candidates and our ability to generate product revenue or royalties.

The FDA and foreign regulatory agencies require that the safety and efficacy of product candidates be supported through adequate and well-controlled clinical trials. If the results of pivotal clinical trials do not establish the safety and efficacy of our product candidates to the satisfaction of the FDA and other foreign regulatory agencies, we will not receive the approvals necessary to market such product candidates. Even if regulatory approval of a product candidate is granted, the approval may include significant limitations on the indicated uses for which the product may be marketed.

We are subject to the periodic inspection of our clinical trials, facilities, procedures and operations and/or the testing of our products by the FDA to determine whether our systems and processes, or those of our vendors and suppliers, are in compliance with FDA regulations. Following such inspections, the FDA may issue notices on Form 483 and warning letters that could cause us to modify certain activities identified during the inspection. A Form 483 notice is generally issued at the conclusion of an FDA inspection and lists conditions the FDA inspectors believe may violate FDA regulations. FDA guidelines specify that a warning letter is issued only for violations of “regulatory significance” for which the failure to adequately and promptly achieve correction may be expected to result in an enforcement action.

Failure to comply with the FDA and other governmental regulations can result in fines, unanticipated compliance expenditures, recall or seizure of products, total or partial suspension of production and/or distribution, suspension of the FDA’s review of product applications, enforcement actions, injunctions and criminal prosecution. Under certain circumstances, the FDA also has the authority to revoke previously granted product approvals. Although we have internal compliance programs, if these programs do not meet regulatory agency standards or if our compliance is deemed deficient in any significant way, it could have a material adverse effect on the Company.

We are also subject to recordkeeping and reporting regulations. These regulations require, among other things, the reporting to the FDA of adverse events alleged to have been associated with the use of a product or in connection with certain product failures.

Labeling and promotional activities also are regulated by the FDA. We must also comply with record keeping requirements as well as requirements to report certain adverse events involving our products. The FDA can impose other post-marketing controls on us as well as our products including, but not limited to, restrictions on sale and use, through the approval process, regulations and otherwise.

Many states in which we do or may do business, or in which our products may be sold, if at all, impose licensing, labeling or certification requirements that are in addition to those imposed by the FDA. There can be no assurance that one or more states will not impose regulations or requirements that have a material adverse effect on our ability to sell our products.

In many of the foreign countries in which we may do business or in which our products may be sold, we will be subject to regulation by national governments and supranational agencies as well as by local agencies affecting, among other things, product standards, packaging requirements, labeling requirements, import restrictions, tariff regulations, duties and tax requirements. There can be no assurance that one or more countries or agencies will not impose regulations or requirements that could have a material adverse effect on our ability to sell our products.

**Legislative and regulatory changes affecting the healthcare industry could adversely affect our business.**

Political, economic and regulatory influences are subjecting the healthcare industry to potential fundamental changes that could substantially affect our results of operations. There have been a number of government and private sector initiatives during the last few years to limit the growth of healthcare costs, including price regulation, competitive pricing, coverage and payment policies, comparative effectiveness of therapies, technology assessments and managed-care arrangements. It is uncertain whether or when any legislative proposals will be adopted or what actions federal, state, or private payors for health care treatment and services may take in response to any healthcare reform proposals or legislation. We cannot predict the effect healthcare reforms may have on our business and we can offer no assurances that any of these reforms will not have a material adverse effect on our business. These actual and potential changes are causing the marketplace to put increased emphasis on the delivery of more cost-effective treatments. In addition, uncertainty remains regarding proposed significant reforms to the U.S. health care system.

**The success of our products may be harmed if the government, private health insurers and other third-party payers do not provide sufficient coverage or reimbursement.**

Our ability to commercialize our new cancer treatment systems successfully will depend in part on the extent to which reimbursement for the costs of such products and related treatments will be available from government health administration authorities, private health insurers and other third-party payors. The reimbursement status of newly approved medical products is subject to significant uncertainty. We cannot guarantee that adequate third-party insurance coverage will be available for us to establish and maintain price levels sufficient for us to realize an appropriate return on our investment in developing new therapies. Government, private health insurers and other third-party payors are increasingly attempting to contain healthcare costs by limiting both coverage and the level of reimbursement for new therapeutic products approved for marketing by the FDA. Accordingly, even if coverage and reimbursement are provided by government, private health insurers and third-party payors for uses of our products, market acceptance of these products would be adversely affected if the reimbursement available proves to be unprofitable for health care providers.

**Our products may not achieve sufficient acceptance by the medical community to sustain our business.**

The commercial success of our products will depend upon their acceptance by the medical community and third-party payors as clinically useful, cost effective and safe. Any of our drug candidates may prove not to be effective in practice. Our testing and clinical practice may not confirm the safety and efficacy of our product candidates or even if further testing and clinical practice produce positive results, the medical community may view these new forms of treatment as effective and desirable or our efforts to market our new products may fail. Market acceptance depends upon physicians and hospitals obtaining adequate reimbursement rates from third-party payors to make our products commercially viable. Any of these factors could have an adverse effect on our business, financial condition and results of operations.

**The commercial potential of a drug candidate in development is difficult to predict. If the market size for a new drug is significantly smaller than we anticipate, it could significantly and negatively impact our revenue, results of operations and financial condition.**

It is very difficult to predict the commercial potential of product candidates due to important factors such as safety and efficacy compared to other available treatments, including potential generic drug alternatives with similar efficacy profiles, changing standards of care, third party payor reimbursement standards, patient and physician preferences, the availability of competitive alternatives that may emerge either during the long drug development process or after commercial introduction, and the availability of generic versions of our successful product candidates following approval by government health authorities based on the expiration of regulatory exclusivity or our inability to prevent generic versions from coming to market by asserting our patents. If due to one or more of these risks the market potential for a drug candidate is lower than we anticipated, it could significantly and negatively impact the revenue potential for such drug candidate and would adversely affect our business, financial condition and results of operations.

**We have no internal sales or marketing capability. If we are unable to create sales, marketing and distribution capabilities or enter into alliances with others possessing such capabilities to perform these functions, we will not be able to commercialize our products successfully.**

We currently have no sales, marketing or distribution capabilities. We intend to market our products, if and when such products are approved for commercialization by the FDA and foreign regulatory agencies, either directly or through other strategic alliances and distribution arrangements with third parties. If we decide to market our products directly, we will need to commit significant financial and managerial resources to develop a marketing and sales force with technical expertise and with supporting distribution, administration and compliance capabilities. If we rely on third parties with such capabilities to market our products, we will need to establish and maintain partnership arrangements, and there can be no assurance that we will be able to enter into third-party marketing or distribution arrangements on acceptable terms or at all. To the extent that we do enter into such arrangements, we will be dependent on our



marketing and distribution partners. In entering into third-party marketing or distribution arrangements, we expect to incur significant additional expenses and there can be no assurance that such third parties will establish adequate sales and distribution capabilities or be successful in gaining market acceptance for our products and services.

**Technologies for the treatment of cancer are subject to rapid change, and the development of treatment strategies that are more effective than our technologies could render our technologies obsolete.**

Various methods for treating cancer currently are, and in the future are expected to be, the subject of extensive research and development. Many possible treatments that are being researched, if successfully developed, may not require, or may supplant, the use of our technologies. The successful development and acceptance of any one or more of these alternative forms of treatment could render our technology obsolete as a cancer treatment method.

**We may not be able to hire or retain key officers or employees that we need to implement our business strategy and develop our product candidates and business, including those purchased in the EGEN acquisition.**

Our success depends significantly on the continued contributions of our executive officers, scientific and technical personnel and consultants, including those retained in the EGEN acquisition, and on our ability to attract additional personnel as we seek to implement our business strategy and develop our product candidates and businesses. Our operations associated with the EGEN acquisition are located in Huntsville, Alabama. Key employees may depart if we fail to successfully manage this additional business location or in relation to any uncertainties or difficulties of integration with Celsion. We cannot guarantee that we will retain key employees to the same extent that we and EGEN retained each of our own employees in the past, which could have a negative impact on our business, results of operations and financial condition. Our integration of EGEN and ability to operate in the fields we acquired from EGEN may be more difficult if we lose key employees. Additionally, during our operating history, we have assigned many essential responsibilities to a relatively small number of individuals. However, as our business and the demands on our key employees expand, we have been, and will continue to be, required to recruit additional qualified employees. The competition for such qualified personnel is intense, and the loss of services of certain key personnel or our inability to attract additional personnel to fill critical positions could adversely affect our business. Further, we do not carry “key man” insurance on any of our personnel. Therefore, loss of the services of key personnel would not be ameliorated by the receipt of the proceeds from such insurance.

**Our success will depend in part on our ability to grow and diversify, which in turn will require that we manage and control our growth effectively.**

Our business strategy contemplates growth and diversification. Our ability to manage growth effectively will require that we continue to expend funds to improve our operational, financial and management controls, reporting systems and procedures. In addition, we must effectively expand, train and manage our employees. We will be unable to manage our business effectively if we are unable to alleviate the strain on resources caused by growth in a timely and successful manner. There can be no assurance that we will be able to manage our growth and a failure to do so could have a material adverse effect on our business.

**We face intense competition and the failure to compete effectively could adversely affect our ability to develop and market our products.**

There are many companies and other institutions engaged in research and development of various technologies for cancer treatment products that seek treatment outcomes similar to those that we are pursuing. We believe that the level of interest by others in investigating the potential of possible competitive treatments and alternative technologies will continue and may increase. Potential competitors engaged in all areas of cancer treatment research in the United States and other countries include, among others, major pharmaceutical, specialized technology companies, and universities and other research institutions. Most of our current and potential competitors have substantially greater financial,

technical, human and other resources, and may also have far greater experience than do we, both in pre-clinical testing and human clinical trials of new products and in obtaining FDA and other regulatory approvals. One or more of these companies or institutions could succeed in developing products or other technologies that are more effective than the products and technologies that we have been or are developing, or which would render our technology and products obsolete and non-competitive. Furthermore, if we are permitted to commence commercial sales of any of our products, we will also be competing, with respect to manufacturing efficiency and marketing, with companies having substantially greater resources and experience in these areas.

**We may be subject to significant product liability claims and litigation.**

Our business exposes us to potential product liability risks inherent in the testing, manufacturing and marketing of human therapeutic products. We presently have product liability insurance limited to \$10 million per incident and \$10 million annually. If we were to be subject to a claim in excess of this coverage or to a claim not covered by our insurance and the claim succeeded, we would be required to pay the claim with our own limited resources, which could have a severe adverse effect on our business. Whether or not we are ultimately successful in any product liability litigation, such litigation would harm the business by diverting the attention and resources of our management, consuming substantial amounts of our financial resources and by damaging our reputation. Additionally, we may not be able to maintain our product liability insurance at an acceptable cost, if at all.

**Our internal computer systems, or those of our CROs or other contractors or consultants, may fail or suffer security breaches, which could result in a material disruption of our product development programs.**

Despite the implementation of security measures, our internal computer systems and those of our CROs and other contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. Such events could cause interruptions of our operations. For instance, the loss of preclinical data or data from any clinical trial involving our product candidates could result in delays in our development and regulatory filing efforts and significantly increase our costs. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the development of our product candidates could be delayed.

## **RISKS RELATED TO OUR SECURITIES**

**The market price of our common stock has been, and may continue to be volatile and fluctuate significantly, which could result in substantial losses for investors and subject us to securities class action litigation.**

The trading price for our common stock has been, and we expect it to continue to be, volatile. Our January 31, 2013 announcement that the HEAT study failed to meet its primary endpoint has resulted in significant volatility and a steep decline in the price of our common stock, a level of decline that could result in securities litigation. Plaintiffs' securities litigation firms have publicly announced that they are investigating potential securities fraud claims that they may wish to make against us. The price at which our common stock trades depends upon a number of factors, including our historical and anticipated operating results, our financial situation, announcements of technological innovations or new products by us or our competitors, our ability or inability to raise the additional capital we may need and the terms on which we raise it, and general market and economic conditions. Some of these factors are beyond our control. Broad market fluctuations may lower the market price of our common stock and affect the volume of trading in our stock, regardless of our financial condition, results of operations, business or prospect. The closing price of our common stock as reported on The NASDAQ Capital Market had a high price of \$4.57 and a low price of \$2.30 in the 52-week period ended December 31, 2014 and a high price of \$3.15 and a low price of \$2.20 from January 2, 2015 through March 10, 2015. Among the factors that may cause the market price of our common stock to fluctuate are the risks described in this "Risk Factors" section and other factors, including:

results of preclinical and clinical studies of our product candidates or those of our competitors;

regulatory or legal developments in the U.S. and other countries, especially changes in laws and regulations applicable to our product candidates;

actions taken by regulatory agencies with respect to our product candidates, clinical studies, manufacturing process or sales and marketing terms;

introductions and announcements of new products by us or our competitors, and the timing of these introductions or announcements;

announcements by us or our competitors of significant acquisitions or other strategic transactions or capital commitments;

fluctuations in our quarterly operating results or the operating results of our competitors;

variance in our financial performance from the expectations of investors;

changes in the estimation of the future size and growth rate of our markets;

changes in accounting principles or changes in interpretations of existing principles, which could affect our financial results;

failure of our products to achieve or maintain market acceptance or commercial success;

conditions and trends in the markets we serve;

changes in general economic, industry and market conditions;

success of competitive products and services;

changes in market valuations or earnings of our competitors;

changes in our pricing policies or the pricing policies of our competitors;

changes in legislation or regulatory policies, practices or actions;

the commencement or outcome of litigation involving our company, our general industry or both;

recruitment or departure of key personnel;

changes in our capital structure, such as future issuances of securities or the incurrence of additional debt;

actual or anticipated changes in earnings estimates or changes in stock market analyst recommendations regarding our common stock, other comparable companies or our industry generally;

actual or expected sales of our common stock by our stockholders; and

acquisitions and financings, including the EGEN acquisition; and

the trading volume of our common stock.

In addition, the stock markets, in general, The NASDAQ Capital Market and the market for pharmaceutical companies in particular, may experience a loss of investor confidence. Such loss of investor confidence may result in extreme price and volume fluctuations in our common stock that are unrelated or disproportionate to the operating performance of our business, financial condition or results of operations. These broad market and industry factors may materially harm the market price of our common stock and expose us to securities class action litigation. Such litigation, even if unsuccessful, could be costly to defend and divert management's attention and resources, which could further materially harm our financial condition and results of operations.

**Future sales of our common stock in the public market could cause our stock price to fall.**

Sales of a substantial number of shares of our common stock in the public market, or the perception that these sales might occur, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. As of March 11, 2015, we had 19,984,703 shares of common stock outstanding, all of which shares, other than shares held by our directors and certain officers, were eligible for sale in the public market, subject in some cases to compliance with the requirements of Rule 144, including the volume limitations and manner of sale requirements. In addition, all of the shares of common stock issuable upon exercise of warrants will be freely tradable without restriction or further registration upon issuance.

**Our stockholders may experience significant dilution as a result of future equity offerings or issuances and exercise of outstanding options and warrants.**

In order to raise additional capital or pursue strategic transactions, we may in the future offer, issue or sell additional shares of our common stock or other securities convertible into or exchangeable for our common stock, including the issuance of common stock in relation to the achievement, if any, of milestones triggering our payment of earn-out consideration in connection with the EGEN acquisition. Our stockholders may experience significant dilution as a result of future equity offerings or issuances. Investors purchasing shares or other securities in the future could have rights superior to existing stockholders. As of March 10, 2015, we have a significant number of securities convertible into, or allowing the purchase of, our common stock, including 4,169,914 shares of common stock issuable upon exercise of warrants outstanding, 1,751,773 options to purchase shares of our common stock and restricted stock awards outstanding, and 1,922,497 shares of common stock reserved for future issuance under our stock incentive plans. Under the Controlled Equity Offering<sup>SM</sup> Sales Agreement entered into with Cantor Fitzgerald & Co. on February 1, 2013, we may offer and sell, from time to time through “at-the-market” offerings, up to an aggregate of \$25 million of shares of our common stock. We had only sold \$6.8 million under the Sales Agreement as of March 10, 2015.

**We may be unable to maintain compliance with The NASDAQ Marketplace Rules which could cause our common stock to be delisted from The NASDAQ Capital Market. This could result in the lack of a market for our common stock, cause a decrease in the value of an investment in us, and adversely affect our business, financial condition and results of operations.**

Our common stock is currently listed on The NASDAQ Capital Market. To maintain the listing of our common stock on The NASDAQ Capital Market, we are required to meet certain listing requirements, including, among others, either: (i) a minimum closing bid price of \$1.00 per share, a market value of publicly held shares (excluding shares held by our executive officers, directors and 10% or more stockholders) of at least \$1 million and stockholders' equity of at least \$2.5 million; or (ii) a minimum closing bid price of \$1.00 per share, a market value of publicly held shares (excluding shares held by our executive officers, directors and 10% or more stockholders) of at least \$1 million and a total market value of listed securities of at least \$35 million. As of March 10, 2015, the closing sale price of our common stock was \$2.76, the total market value of our publicly held shares of our common stock (excluding shares held by our executive officers, directors and 10% or more stockholders) was approximately \$47.4 million and the total market value of our listed securities was approximately \$55.2 million. There is no assurance that we will continue to meet the minimum closing price requirement and other listing requirements. As of December 31, 2014, we had stockholders' equity of \$33.1 million.

If the closing bid price of our common stock is below \$1.00 per share or the total market value of our publicly held shares of common stock is below \$35 million for 30 consecutive business days, we could be subject to delisting from The NASDAQ Capital Market. If our common stock is delisted, trading of the stock will most likely take place on an over-the-counter market established for unlisted securities, such as the Pink Sheets or the OTC Bulletin Board. An investor is likely to find it less convenient to sell, or to obtain accurate quotations in seeking to buy, our common stock on an over-the-counter market, and many investors may not buy or sell our common stock due to difficulty in accessing over-the-counter markets, or due to policies preventing them from trading in securities not listed on a national exchange or other reasons. In addition, as a delisted security, our common stock would be subject to SEC rules regarding "penny stock," which impose additional disclosure requirements on broker-dealers. The regulations relating to penny stocks, coupled with the typically higher cost per trade to investors in penny stocks due to factors such as broker commissions generally representing a higher percentage of the price of a penny stock than of a higher priced stock, would further limit the ability and willingness of investors to trade in our common stock. For these reasons and others, delisting would adversely affect the liquidity, trading volume and price of our common stock, causing the value of an investment in us to decrease and having an adverse effect on our business, financial condition and results of operations, including our ability to attract and retain qualified executives and employees and to raise capital.

**The adverse capital and credit market conditions could affect our liquidity.**

Adverse capital and credit market conditions could affect our ability to meet liquidity needs, as well as our access to capital and cost of capital. The capital and credit markets have experienced extreme volatility and disruption in recent years. Our results of operations, financial condition, cash flows and capital position could be materially adversely



affected by continued disruptions in the capital and credit markets.

**Our ability to use net operating losses to offset future taxable income are subject to certain limitations.**

We currently have significant net operating losses (NOLs) that may be used to offset future taxable income. In general, under Section 382 of the Internal Revenue Code of 1986, as amended (the Code), a corporation that undergoes an “ownership change” is subject to limitations on its ability to utilize its pre-change NOLs to offset future taxable income. During 2014, 2013 and 2012 we performed analyses to determine if there were changes in ownership, as defined by Section 382 of the Internal Revenue Code that would limit our ability to utilize certain net operating loss and tax credit carry forwards. We determined we experienced an ownership change, as defined by Section 382, in connection with certain common stock offerings on July 25, 2011, February 5, 2013 and on June 3, 2013. As a result, the utilization of our federal tax net operating loss carry forwards generated prior to the ownership changes is limited. Future changes in our stock ownership, some of which are outside of our control, could result in an ownership change under Section 382 of the Code, which would significantly limit our ability to utilize NOLs to offset future taxable income.

**We have never paid cash dividends on our common stock in the past and do not anticipate paying cash dividends on our common stock in the foreseeable future.**

We have never declared or paid cash dividends on our common stock. We do not anticipate paying any cash dividends on our common stock in the foreseeable future. We currently intend to retain all available funds and any future earnings to fund the development and growth of our business. As a result, capital appreciation, if any, of our common stock will be the sole source of gain for the foreseeable future for holders of our common stock.

**Anti-takeover provisions in our charter documents and Delaware law could prevent or delay a change in control.**

Our certificate of incorporation and bylaws may discourage, delay or prevent a merger or acquisition that a stockholder may consider favorable by authorizing the issuance of “blank check” preferred stock. This preferred stock may be issued by our board of directors on such terms as it determines, without further stockholder approval. Therefore, our board of directors may issue such preferred stock on terms unfavorable to a potential bidder in the event that our board of directors opposes a merger or acquisition. In addition, our classified board of directors may discourage such transactions by increasing the amount of time necessary to obtain majority representation on our board of directors. Certain other provisions of our bylaws and of Delaware law may also discourage, delay or prevent a third party from acquiring or merging with us, even if such action were beneficial to some, or even a majority, of our stockholders.

#### **ITEM 1B. UNRESOLVED STAFF COMMENTS**

None.

#### **ITEM 2. PROPERTIES**

In 2011, we entered into a lease with Brandywine Operating Partnership, L.P. (Brandywine), a Delaware limited partnership for a 10,870 square foot premises located in Lawrenceville, New Jersey. In October 2011, we relocated our offices to Lawrenceville, New Jersey from Columbia, Maryland. The lease has a remaining term of 28 months. As required by the lease, we provided Brandywine with an irrevocable and unconditional standby letter of credit for \$250,000, which we secured with an escrow deposit at our banking institution of this same amount. The lease stipulated standby letter of credit will be reduced by \$50,000 on each of the 19th, 31st and 43rd months from the initial term, with the remaining \$100,000 amount remaining until the term of the lease has expired. In connection with

two \$50,000 reductions of the standby letter of credit in April 2013 and 2014, we reduced the escrow deposit by \$50,000 each time.

In connection with the acquisition of substantially all of the assets of EGEN, Inc., an Alabama corporation, in June 2014, we assumed the existing lease with another landlord for an 11,500 square foot premises located in Huntsville Alabama. This lease has a remaining term of 37 months with monthly rent payments of approximately \$23,200.

We believe our existing facilities are suitable and adequate to conduct our business.

**ITEM 3. LEGAL PROCEEDINGS**

We are not currently a party to any material legal proceedings.

**ITEM 4. MINE SAFETY DISCLOSURES**

Not Applicable.

**PART II****ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES****Market Price for Our Common Stock**

Our common stock trades on The NASDAQ Capital Market under the symbol "CLSN". The following table sets forth the high and low reported closing sale prices for the periods indicated as adjusted to reflect the 4.5-to-1 reverse stock split of our common stock effective October 28, 2013.

|  | <b>High</b> | <b>Low</b> |
|--|-------------|------------|
| <b>YEAR ENDED DECEMBER 31, 2014</b>            |             |            |
| First Quarter (January 1 – March 31, 2014)     | \$4.57      | \$3.37     |
| Second Quarter (April 1 – June 30, 2014)       | \$3.53      | \$3.03     |
| Third Quarter (July 1 – September 30, 2014)    | \$3.47      | \$2.93     |
| Fourth Quarter (October 1 – December 31, 2014) | \$2.92      | \$2.30     |
| <b>YEAR ENDED DECEMBER 31, 2013</b>            |             |            |
| First Quarter (January 1 – March 31, 2013)     | \$42.12     | \$4.37     |
| Second Quarter (April 1 – June 30, 2013)       | \$8.42      | \$3.47     |
| Third Quarter (July 1 – September 30, 2013)    | \$6.39      | \$4.91     |
| Fourth Quarter (October 1 – December 31, 2013) | \$5.72      | \$3.55     |
| <b>YEAR ENDED DECEMBER 31, 2012</b>            |             |            |
| First Quarter (January 1 – March 31, 2012)     | \$9.99      | \$7.38     |
| Second Quarter (April 1 – June 30, 2012)       | \$14.09     | \$7.92     |
| Third Quarter (July 1 – September 30, 2012)    | \$26.55     | \$12.83    |
| Fourth Quarter (October 1 – December 31, 2012) | \$39.74     | \$19.35    |

On March 10, 2015, the last reported sale price for our Common Stock on the NASDAQ Capital Market was \$2.76. As of March 10, 2015, there were approximately 16,000 stockholders of record of our Common Stock. The actual number of stockholders is greater than this number of record stockholders and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees. This number of stockholders of record also does not include stockholders whose shares may be held in trust by other entities.



## Performance Graph

This performance graph shall not be deemed “soliciting material” or to be “filed” with the Securities and Exchange Commission for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the Exchange Act), or otherwise subject to the liabilities under that section, and shall not be deemed to be incorporated by reference into any filing of Celsion under the Securities Act of 1933, as amended, or the Exchange Act.

The following graph compares the percentage change in the cumulative return to the stockholders of our common stock during the five year period ended December 31, 2014 with the cumulative return the NASDAQ Composite Index and the NASDAQ Biotechnology Index for the same periods.

The graph assumes that \$100 was invested on December 31, 2009 in our common stock or an index, and that all dividends were reinvested. We have not declared nor paid any dividends on our common stock. Stockholder returns over the indicated period should not be considered indicative of future stockholder returns.

## **Dividend Policy**

We have never declared or paid any cash dividends on our common stock. We currently anticipate that we will retain all of our future earnings for use in the operation of our business and to fund future growth and do not anticipate paying any cash dividends in the foreseeable future. Any future determination to declare cash dividends will be made at the discretion of our board of directors, subject to applicable law, and will depend on our financial condition, results of operations, capital requirements, general business conditions and other factors that our board of directors may deem relevant.

## **Securities Authorized For Issuance Under Equity Compensation Plans**

See “Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters—Equity Compensation Plan Information.”

## **Unregistered Shares Of Equity Securities**

All unregistered shares of equity securities have been previously reported by the Company in its Quarterly Reports on Form 10-Q or Current Reports on Form 8-K.

**Issuer Purchases of Equity Securities**

None.

**ITEM 6. SELECTED FINANCIAL DATA**

The selected financial data set forth below is not necessarily indicative of results of future operations and should be read together with Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and the financial statements and related notes thereto included in Part II, Item 8 of this Annual Report on Form 10-K to fully understand factors that may affect the comparability of the information presented below. All shares and per share data prior to 2014 have been adjusted to reflect the 4.5-to-1 reverse split of our common stock effected as of October 28, 2013.

| <b>Statement of operations data:<br/>(in thousands, except per share data)</b>                       | <b>Year Ended December 31,</b> |             |             |             |             |
|--|--------------------------------|-------------|-------------|-------------|-------------|
|  | <b>2014</b>                    | <b>2013</b> | <b>2012</b> | <b>2011</b> | <b>2010</b> |
| Licensing revenue  | \$500                          | \$500       | \$-         | \$2,000     | \$-         |
| Research and development expense   | 14,969                         | 9,364       | 15,770      | 19,864      | 14,714      |
| General and administrative expense   | 8,861                          | 6,547       | 6,373       | 5,155       | 4,923       |
| Acquisition costs  | 1,385                          | —           | —           | —           | —           |
| Total operating expense  | 25,215                         | 15,911      | 22,143      | 25,019      | 19,637      |
| Operating loss   | (24,715)                       | (15,411)    | (22,143)    | (23,019)    | (19,637)    |
| Other (loss) income  | (779 )                         | 7,160       | (4,426 )    | (204 )      | 819         |
| Net loss   | (25,494)                       | (8,251 )    | (26,569)    | (23,223)    | (18,818)    |
| Non-cash deemed dividend from beneficial conversion feature on convertible preferred stock           | —                              | (4,602 )    |             |             |             |
| Net loss attributable to common shareholders   | \$(25,494)                     | \$(12,853)  | \$(26,569)  | \$(23,223)  | \$(18,818)  |
| Net loss attributable to common shareholders per common share - basic and diluted                    | \$(1.38 )                      | \$(0.95 )   | \$(3.44 )   | \$(5.00 )   | \$(6.84 )   |
| Weighted average shares used in computing net loss available to common shareholders per common share | 18,472                         | 13,541      | 7,731       | 4,648       | 2,750       |

**As of December 31**



| <b>Balance sheet data:<br/>(in thousands)</b>  | <b>2014</b> | <b>2013</b> | <b>2012</b> | <b>2011</b> | <b>2010</b> |
|--|-------------|-------------|-------------|-------------|-------------|
| Cash and cash equivalents  | \$12,687    | \$5,719     | \$14,991    | \$20,145    | \$1,139     |
| Investment securities, available for sale (including interest receivable on investments) | 24,383      | 37,368      | 8,104       | 10,401      | 396         |
| Working capital (deficit)  | 27,415      | 39,091      | 18,644      | 25,356      | (4,769)     |
| Total assets   | 66,695      | 45,671      | 25,359      | 32,649      | 2,525       |
| Common stock warrant liability   | 275         | 3           | 4,284       | 166         | 248         |
| Non-current liabilities  | 23,778      | 9,476       | 8,392       | 303         | 305         |
| Total liabilities  | 33,896      | 14,147      | 13,397      | 6,456       | 7,101       |
| Total stockholders' equity (deficit)   | 32,825      | 31,524      | 11,962      | 26,194      | (4,576)     |

## **ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS**

The following discussions should be read in conjunction with our financial statements and related notes thereto included in this Annual Report on Form 10-K. The following discussion contains forward-looking statements made pursuant to the safe harbor provisions of Section 21E of the Securities Exchange Act of 1934 and the Private Securities Litigation Reform Act of 1995. These statements are based on our beliefs and expectations about future outcomes and are subject to risks and uncertainties that could cause actual results to differ materially from anticipated results. Factors that could cause or contribute to such differences include those described under Part I, Item 1A – Risk Factors appearing in this Annual Report on Form 10-K and factors described in other cautionary statements, cautionary language and risk factors set forth in other documents that we file with the Securities and Exchange Commission. We undertake no obligation to publicly update forward-looking statements, whether as a result of new information, future events or otherwise.

### **Overview**

Celsion is a fully-integrated oncology drug development company focused on developing a portfolio of innovative cancer treatments, including directed chemotherapies, immunotherapies and RNA- or DNA-based therapies. Our lead program is ThermoDox®, a proprietary heat-activated liposomal encapsulation of doxorubicin, currently in Phase III clinical trial for the treatment of primary liver cancer and a Phase II clinical trial for the treatment of recurrent chest wall breast cancer. Our pipeline also includes GEN-1 (formerly known as EGEN-001), a DNA-based immunotherapy for the localized treatment of ovarian and brain cancers. We have three platform technologies for the development of treatments for those suffering with difficult-to-treat forms of cancer, novel nucleic acid-based immunotherapies and other anti-cancer DNA or RNA therapies, including TheraPlas™ and TheraSilence™. We are working to develop and commercialize more efficient, effective and targeted oncology therapies based on our technologies, with the goal to develop novel therapeutics that maximize efficacy while minimizing side-effects common to cancer treatments.

### **Significant Events**

#### *ThermoDox®*

Our lead product ThermoDox® is being evaluated in a Phase III clinical trial, in combination with a standardized radiofrequency ablation (RFA) protocol, for primary liver cancer (the OPTIMA Study) and a Phase II clinical trial for recurrent chest wall breast cancer (the DIGNITY Study). ThermoDox® is a liposomal encapsulation of doxorubicin, an approved and frequently used oncology drug for the treatment of a wide range of cancers. Localized heat at mild hyperthermia temperatures (greater than 39.5 degrees Celsius) releases the encapsulated doxorubicin from the

liposome enabling high concentrations of doxorubicin to be deposited preferentially in and around the targeted tumor.

**The HEAT Study.** On January 31, 2013, we announced that ThermoDox® in combination with RFA did not meet the primary endpoint of Progression Free Survival (PFS) for the 701 patient clinical trial in patients with primary liver cancer (the HEAT Study). Specifically, we determined, after conferring with the HEAT Study independent Data Monitoring Committee (DMC), that the HEAT Study did not meet the goal of demonstrating persuasive evidence of clinical effectiveness that could form the basis for regulatory approval. In the trial, ThermoDox® was well-tolerated with no unexpected serious adverse events. Following the announcement of the HEAT Study results, we continue to follow patients for overall survival, the secondary endpoint of the HEAT Study, on a quarterly basis. We have conducted a comprehensive analysis of the data from the HEAT Study to assess the future strategic value of ThermoDox®. As part of this analysis, we are also re-evaluating our product pipeline and research and development priorities. In April 2013, we announced the deferral of expenses associated with our Phase II study of ThermoDox® in combination with RFA for the treatment of colorectal liver metastases (the ABLATE Study) until such time as we finalize our plans for the continuation of its development program with ThermoDox® in primary liver cancer, also known as hepatocellular carcinoma (HCC).

The data from the HEAT Study post-hoc analysis suggest that ThermoDox® may substantially improve overall survival, when compared to the control group, in patients if their tumors undergo optimal RFA treatment. Data from six overall survival sweeps have been conducted since the top line PFS data from the HEAT Study were announced in January 2013. The most recent post-hoc analysis data from the HEAT Study announced in February 2015 demonstrate that the patient subgroup in the ThermoDox® arm whose RFA procedure lasted longer than 45 minutes (285 patients or 41% of the study patients), experienced a 59% improvement in overall survival, with a Hazard Ratio of 0.628 (95% CI 0.420 - 0.939) and a P-value of 0.02. This information should be viewed with caution since it is based on a retrospective analysis of a subgroup that has not reached its median point for the overall survival analysis. We may choose to end this analysis of overall survival once the median is reached for both arms of the study.

Data from the HEAT Study post-hoc analysis has been presented at various scientific and medical conferences in 2013 and 2014 by key HEAT Study investigators and leading liver cancer experts. The presentations include:

World Conference on Interventional Oncology in May 2013  
European Conference on Interventional Oncology in June 2013 and April 2014  
International Liver Cancer Association Annual Conference in September 2013 and 2014  
American Society of Clinical Oncology 50<sup>th</sup> Annual Meeting in June 2014

We also completed computational modeling with supplementary preclinical animal studies supporting the relationship between heating duration and clinical outcomes.

***The OPTIMA Study.*** On February 24, 2014, we announced that the U.S. Food and Drug Administration (FDA), after its customary 30 day review period, accepted without comment, subject to compliance with regulatory standards, clearance for our pivotal, double-blind, placebo-controlled Phase III trial of ThermoDox®, our proprietary heat-activated liposomal encapsulation of doxorubicin in combination with RFA in primary liver cancer, also known as HCC (the OPTIMA Study). The OPTIMA Study trial design is based on the comprehensive analysis of data from the HEAT study, which, as described above, demonstrated that treatment with ThermoDox® resulted in a 59% improvement in overall survival in a large number of HCC patients that received an optimized RFA treatment for longer than 45 minutes. We launched the OPTIMA Study in the first half of 2014. The OPTIMA Study is designed with extensive input from globally recognized HCC researchers and clinicians and after formal written consultation with the FDA. The OPTIMA Study is expected to enroll up to 550 patients globally at up to 100 sites in the United States, Europe, China and elsewhere in the Asia Pacific region, and will evaluate ThermoDox® in combination with optimized RFA, which will be standardized to a minimum of 45 minutes across all investigators and clinical sites for treating lesions 3 to 7 centimeters, versus standardized RFA alone. The primary endpoint for the trial is overall survival, and the secondary endpoints for the trial are PFS and Safety. The statistical plan calls for two interim efficacy analyses by an independent DMC.

In addition, we met with the China State Food and Drug Administration (CHINA FDA) in 2014 to discuss the OPTIMA Phase III trial including minimum patient enrollment requirements supporting the registration of ThermoDox® in China. Based on those discussions, we have submitted an application for accelerated approval of the OPTIMA Study in China and we expect to receive CHINA FDA clearance in the first half of 2015. We have filed a request for a Voluntary Harmonization Procedure (VHP) in Europe, which provides for the assessment of multinational clinical trial applications across several European countries, including Germany, Italy and Spain. Our request for a VHP in Europe was approved on October 23, 2014.

#### *Technology Development Agreements*

On May 6, 2012, we entered into a long-term commercial supply agreement with Zhejiang Hisun Pharmaceutical Co. Ltd. (Hisun) for the production of ThermoDox® in mainland China, Hong Kong and Macau (the China territory). Hisun will be responsible for providing all of the technical and regulatory support services for the manufacture of ThermoDox® in the China territory and we will repay Hisun the related development costs and fees, which we expect to be approximately \$2.0 million in total, commencing on the successful completion of three registrational batches of ThermoDox®. On January 18, 2013, we broadened our relationship with Hisun by entering into a technology development contract, pursuant to which Hisun paid us a non-refundable research and development fee of \$5.0 million to support our development of ThermoDox® and we will provide research data and other technical support in relation to a regulatory filing by Hisun in China for approval of ThermoDox®. Following our announcement of the HEAT study results on January 31, 2013, we and Hisun have agreed that the technology development contract entered into on January 18, 2013 will remain in effect while the parties continue to collaborate the next steps in relation to ThermoDox®, which include the continued subgroup analysis of the Chinese cohort of patients in the HEAT Study for primary liver cancer and other activities to further the development of ThermoDox® for the China territory.

On July 19, 2013, the Company and Hisun entered into a Memorandum of Understanding to pursue ongoing collaborations for the continued clinical development of ThermoDox® as well as the technology transfer relating to the commercial manufacture of ThermoDox® for the China territory. This expanded collaboration includes development of the next generation liposomal formulation with the goal of creating safer, more efficacious versions of marketed cancer chemotherapeutics.

***The DIGNITY Study.*** On July 24, 2014, we announced interim data from our ongoing open-label Phase II trial of ThermoDox® in recurrent chest wall (RCW) breast cancer (the DIGNITY Study). The trial is designed to enroll up to 20 patients at several U.S. clinical sites and is evaluating ThermoDox® in combination with mild hyperthermia. Of the 14 patients enrolled and treated, ten were eligible for evaluation of efficacy. Based on data available to date, 60 percent of patients experienced a stabilization of their highly refractory disease with a local response rate of 50 percent observed in the ten evaluable patients, notably three complete responses, two partial responses and one patient with stable disease.

These data are consistent with the combined clinical data from two Phase I trials, our Phase I DIGNITY Study and the Duke University sponsored Phase I trial of ThermoDox® plus hyperthermia in RCW breast cancer in December 2013. The two similarly designed Phase I studies enrolled patients with highly resistant tumors found on the chest wall and who had progressed on previous therapy including chemotherapy, radiation therapy and hormone therapy. There were 29 patients treated in the two trials (eleven patients in our DIGNITY Study and 18 patients in the study sponsored by Duke). Of the 29 patients treated, 23 were eligible for evaluation of efficacy. A local response rate of over 60 percent was reported in 14 of the 23 evaluable patients with five complete responses and nine partial responses.

#### **Breast Cancer Clinical Phase II Clinical Trial - The Euro-DIGNITY Study**

The Company anticipates a Phase II study of RadioTherapy (RT), HyperThermia (HT) and ThermoDox® to treat patients with local-regional recurrent chest wall breast cancer will be initiated by six to eight physicians and institutions located in Italy, Israel, the Netherlands, Poland and the Czech Republic (the Euro-DIGNITY Study). The Euro-DIGNITY Study will be Phase II study enrolling up to 100 patients affected by recurrent breast adenocarcinoma on the chest wall with/without nodes over a period of two years.

The primary objectives of the Euro-DIGNITY Study will be (i) to evaluate efficacy in patients after 3 cycles of ThermoDox® plus Hyperthermia measuring tumor diameter as a response to therapy and (ii) to evaluate loco-regional breast tumor control in patients who undergo ThermoDox®/hyperthermia/radiotherapy as measured by target lesion clinical response rate combining a RECIST criteria with digital photography to gauge response.

Secondary objectives of the Euro-DIGNITY Study will be (i) to evaluate the safety of the combination of ThermoDox/Hyperthermia/Radiotherapy among patients with LRR breast cancer, (ii) to evaluate the duration of local control complete response (CR), partial response (PR) and stable disease (SD) following treatment with ThermoDox/Hyperthermia/Radiotherapy up to 24 months among patients with LRR breast cancer and (iii) to assess Patient Reported Quality of Life using the FACT-B and Brief Pain Inventory (BPI) following treatment with ThermoDox/Hyperthermia/Radiotherapy among patients with LRR breast cancer.

## **Early Access Program for ThermoDox for the Treatment of Patients with RCW Breast Cancer**

On January 13, 2015, we entered into an Early Access Agreement with Impatiens N.V., a Netherlands company (Impatiens), pursuant to which Impatiens will develop and execute through its brand myTomorrows an early access program for ThermoDox® in all countries of the European Union territory, Iceland, Liechtenstein, Norway and Switzerland (the Territory) for the treatment of patients with RCW breast cancer. Under the early access program, Impatiens will engage in activities to secure authorization, exemption or waiver from regulatory authorities for patient use of ThermoDox® that may otherwise be subject to approvals from such regulatory authorities before the sale and distribution of ThermoDox® in the relevant territories. We will be responsible for the manufacture and supply of quantities of ThermoDox® to Impatiens for use in the early access program and Impatiens will distribute and sell ThermoDox® pursuant to such authorization, exemptions or waivers.

Under the Early Access Agreement, we granted to Impatiens, specifically for the treatment of RCW breast cancer in the Territory, an exclusive, royalty-free right to perform the early access program activities, reference regulatory documentation and approvals that we own, and use our trademarks relating to ThermoDox®. In addition, we granted to Impatiens an option to negotiate an exclusive license to distribute ThermoDox® in the Territory after ThermoDox® receives regulatory approval in a country within the Territory.

In consideration for Impatiens' services to implement the early access program and in the event we receive regulatory authorization to sell, distribute or market ThermoDox® in the Territory, we will be obligated to pay Impatiens, subject to a maximum cap, a low single-digit royalty of net sales of ThermoDox® in the countries where such regulatory authorization has been obtained. The Early Access Agreement has a term of five years, with automatic renewals for consecutive two-year periods, unless earlier terminated by either party with notice or in the event of material breach, bankruptcy, or insolvency without notice.

As a result of the risks and uncertainties discussed in this Annual Report on Form 10-K, among others, we are unable to estimate the duration and completion costs of our research and development projects or when, if ever, and to what extent we will receive cash inflows from the commercialization and sale of a product. Our inability to complete any of our research and development activities, preclinical studies or clinical trials in a timely manner or our failure to enter into collaborative agreements when appropriate could significantly increase our capital requirements and could adversely impact our liquidity. While our estimated future capital requirements are uncertain and could increase or decrease as a result of many factors, including the extent to which we choose to advance our research, development activities, preclinical studies and clinical trials, or if we are in a position to pursue manufacturing or commercialization activities, we will need significant additional capital to develop our product candidates through development and clinical trials, obtain regulatory approvals and manufacture and commercialized approved products, if any. We do not know whether we will be able to access additional capital when needed or on terms favorable to us or our stockholders. Our inability to raise additional capital, or to do so on terms reasonably acceptable to us, would jeopardize the future success of our business.

As a clinical stage biopharmaceutical company, our business and our ability to execute our strategy to achieve our corporate goals are subject to numerous risks and uncertainties. Material risks and uncertainties relating to our business and our industry are described in "Part I, Item 1A. Risk Factors" in this Annual Report on Form 10-K.

### *Acquisition of EGEN*

On June 20, 2014, we completed the acquisition of substantially all of the assets of EGEN, Inc., an Alabama Corporation (EGEN) pursuant to an Asset Purchase Agreement (EGEN Purchase Agreement). CLSN Laboratories, Inc., a Delaware corporation and a wholly-owned subsidiary of the Company (CLSN Laboratories), acquired all of EGEN's right, title and interest in and to substantially all of the assets of EGEN, including cash and cash equivalents, patents, trademarks and other intellectual property rights, clinical data, certain contracts, licenses and permits, equipment, furniture, office equipment, furnishings, supplies and other tangible personal property. In addition, CLSN Laboratories assumed certain specified liabilities of EGEN, including the liabilities arising out of the acquired contracts and other assets relating to periods after the closing date.

The total purchase price for the acquisition is up to \$44.4 million, which includes potential future earn-out payments of up to \$30.4 million contingent upon achievement of certain milestones set forth in the EGEN Purchase Agreement. At the closing, we paid approximately \$3.0 million in cash after the expense adjustment and issued 2,712,188 shares of its common stock to EGEN. The shares of our common stock were issued in a private transaction exempt from registration under the Securities Act of 1933, as amended (the Securities Act), pursuant to Section 4(2) thereof. In addition, 670,070 shares of common stock were held back by us at the closing and are issuable to EGEN on or after August 2, 2016 pending certain potential adjustments for expenses or in relation to EGEN's indemnification obligations under the EGEN Purchase Agreement.



The Earn-Out Payments of up to \$30.4 million will become payable, in cash, shares of Celsion common stock or a combination thereof, at Celsion's option, as follows:

Certain specified development milestones relating to GEN-1 to treat ovarian cancer patients (\$12.0 million);

Certain specified development milestones relating to GEN-1 to treat GBM cancer patients (\$12.0 million); and

A self-liquidating payment of 50% of all fees received from the licensing of TherSilence (up to \$6.0 million).

Our obligations to make the Earn-Out Payments will terminate on the seventh anniversary of the closing date.

On June 9, 2014, we borrowed an additional \$5.0 million pursuant to a certain Loan and Security Agreement dated as of November 25, 2013, by and between Hercules Technology Growth Capital, Inc. and us. We used the loan proceeds to pay the upfront cash payment to EGEN at closing and certain transaction costs incurred in connection with the acquisition.

In the acquisition, we purchased GEN-1, a DNA-based immunotherapy for the localized treatment of ovarian and brain cancers, and three platform technologies for the development of treatments for those suffering with difficult-to-treat forms of cancer, novel nucleic acid-based immunotherapies and other anti-cancer DNA or RNA therapies, including TheraPlas™ and TheraSilence™. GEN-1 is currently in an early stage of clinical development for the treatment of ovarian cancer, and the delivery technology platforms that we purchased from EGEN are in preclinical stages of development. In February 2015, we announced that the FDA has accepted, without comment, the Phase I dose-escalation clinical trial of GEN-1 in combination with the standard of care in neo-adjuvant ovarian cancer. The clinical trial will identify a safe, tolerable and potentially therapeutically active dose of GEN-1 while maximizing an immune response. The trial is designed to enroll three to six patients per dose level and will evaluate safety and efficacy and attempt to define an optimal dose to carry forward into a Phase II trial. We expect to initiate enrollment for the trial in the second half of 2015 at five to six U.S. clinical centers.

On October 28, 2014, we presented preclinical data related to TheraSilence™ at the miRNA World Conference Workshop on miRNA Delivery. Preclinical data indicate that in a mouse lung tumor model, intravenous (IV) delivery of RNA inhibiting VEGFR-2, a tumor angiogenesis factor, via the TheraSilence™ delivery system resulted in significant knockdown of VEGFR-2 transcript in lungs, reduction in tumor blood vessel density and inhibition of tumor growth. Preclinical studies also demonstrated the ability of anti-miRNA delivered via the TheraSilence® delivery system to inhibit miRNA-145, which is associated with the pathogenesis of pulmonary arterial hypertension. Systemically administered RNA complexes using the TheraSilence™ delivery system demonstrated a good tolerability profile. We do not expect to realize any revenue from product sales in the next several years, if at all, other than minimal revenue from the sale of reagent products we acquired from EGEN. Further, there can be no assurance that we will be able to develop and maintain a broad range of product candidates.

To the extent that we are dependent on the success of one or a few product candidates, results such as those announced in relation to the HEAT Study on January 31, 2013 will have a more significant impact on our financial prospects, financial condition and market value. As demonstrated by the HEAT Study results in January 2013, drug research and development is an inherently uncertain process and there is a high risk of failure at every stage prior to approval. The timing and the outcome of clinical results is extremely difficult to predict. Clinical development successes and failures can have a disproportionate positive or negative impact on our scientific and medical prospects, financial prospects, results of operations, financial condition and market value.

The acquisition of EGEN was accounted for under the acquisition method of accounting which required the Company to perform an allocation of the purchase price to the assets acquired and liabilities assumed. The fair value of the consideration transferred for the acquisition is approximately \$27.6 million.

Under the acquisition method of accounting, the total purchase price is allocated to EGEN's net tangible and intangible assets and liabilities based on their estimated fair values as of the acquisition date. The table below summarizes the preliminary estimated fair values of EGEN's net tangible and intangible assets and liabilities on the acquisition date. The purchase price allocations are preliminary and subject to change as more detailed analyses are completed and additional information with respect to the fair values of the assets and liabilities acquired becomes

available.

|  |              |
|--|--------------|
| Property and equipment, net              | 35,000       |
| In-process research and development      | 25,802,000   |
| Goodwill                                 | 1,976,000    |
| Total assets:                            | 27,813,000   |
| Accounts payable and accrued liabilities | (235,000 )   |
| Net assets acquired                      | \$27,578,000 |

The purchase price exceeds the estimated fair value of the net assets acquired by approximately \$2.0 million which was recorded as goodwill. Transaction costs associated with the asset acquisition are included in Acquisition Costs in the Consolidated Statement of Operations and totaled \$ \$1,385,263 from the date of acquisition on June 20, 2014 through December 31, 2014.

#### ***Acquired In-Process Research and Development (IPR&D)***

Acquired IPR&D consists of EGEN's drug technology platforms: TheraPlas™ and TheraSilence™. The fair value of the IPR&D drug technology platforms was estimated to be \$25.8 million as of the acquisition date using the Multi-Period Excess Earnings Method (MPEEM) which is a form of the income approach. Under the MPEEM, the fair value of an intangible asset is equal to the present value of the asset's incremental after-tax cash flows (excess earnings) remaining after deducting the market rates of return on the estimated value of contributory assets (contributory charge) over its remaining useful life.

To calculate fair value of *the IPR&D* programs under the MPEEM, we used projected cash flows discounted at a rate considered appropriate given the significant inherent risks associated with drug development by development-stage companies. Cash flows were calculated based on estimated projections of revenues and expenses related to the IPR&D programs and then reduced by a contributory charge on requisite assets employed. Contributory assets included debt-free working capital, net fixed assets and assembled workforce. Rates of return on the contributory assets were based on rates used for comparable market participants. Cash flows were assumed to extend through a seven-year market exclusivity period. The resultant cash flows were then discounted to present value using a weighted-average cost of equity capital for companies with profiles substantially similar to that of Celsion, which we believe represents the rate that market participants would use to value the assets. The projected cash flows were based on significant assumptions, including the indication in which we will pursue development of IPR&D programs, the time and resources needed to complete the development and regulatory approval of IPR&D programs, estimates of revenue and operating profit related to the program considering its stage of development, the life of the potential commercialized product, market penetration and competition, and risks associated with achieving commercialization, including delay or failure to obtain regulatory approvals to conduct clinical studies, failure of clinical studies, delay or failure to obtain required market clearances, and intellectual property litigation.

As of the closing of the acquisition, the IPR&D is considered indefinite lived intangible assets and will not be amortized. IPR&D will be reviewed for possible impairment on an annual basis or more frequently if there appears to be an indication of impairment.

### ***Funding Overview***

### **Reverse Stock Split**

On October 28, 2013, we affected a reverse stock split of our common stock at an exchange ratio of 4.5-to-1 and set the number of authorized shares of common stock outstanding immediately after the split at 75 million shares. As a result of the reverse stock split, every four and a half shares of common stock outstanding immediately prior to the effectiveness of the reverse stock split were combined and converted into one share of common stock immediately thereafter without any change in the per share par value. Our common stock started to trade on the post-split basis at the commencement of trading on October 29, 2013 under a new CUSIP number 15117N404 with the same ticker symbol, CLSN. Unless otherwise expressly stated, the share and per share data in this section and elsewhere in this Annual Report on Form 10-K have been adjusted to reflect the reverse stock split.

### **Equity and Debt Financings**

During 2014 and 2013, we issued a total of 8.0 million shares of common stock, including shares of common stock issued upon conversion of the 15,000.00422 shares of Series A 0% convertible preferred stock, in the following equity transactions described below for an aggregate \$46.6 million in gross proceeds. On October 28, 2013, we effected a 4.5-to-1 reverse split of our common stock. Unless otherwise expressly stated, the share and per share data in this section and elsewhere in this Annual Report on Form 10-K have been adjusted to reflect the reverse stock split.

On February 1, 2013, we entered into a Controlled Equity Offering<sup>SM</sup> Sales Agreement (ATM) with Cantor Fitzgerald & Co., as sales agent, pursuant to which we may offer and sell, from time to time through “at-the-market” offerings, shares of our common stock having an aggregate offering price of up to \$25.0 million. From February 1, 2013 through February 25, 2013, we sold and issued an aggregate of 1,195,923 shares of common stock under such agreement for approximately \$6.8 million in aggregate gross proceeds.

On February 22, 2013, we entered into a Securities Purchase Agreement with certain institutional investors, pursuant to which we sold, in a registered direct offering, an aggregate of 15,000.00422 shares of our Series A 0% convertible preferred stock and warrants to purchase up to 1,341,382 shares of common stock, for an aggregate purchase price of approximately \$15.0 million in gross proceeds. All of the shares of Series A 0% convertible preferred stock have been converted into 2,682,764 shares of common stock.

On May 30, 2013, we entered into a Securities Purchase Agreement with certain institutional investors, pursuant to which we sold, in a registered direct offering, an aggregate of 1,392,109 shares of our common stock for an aggregate purchase price of approximately \$9.8 million in gross proceeds.

On January 15, 2014, the Company entered into a Securities Purchase Agreement with certain institutional investors, pursuant to which the Company sold, in a registered offering, an aggregate of 3,603,604 shares of its common stock, par value \$0.01 per share, and warrants to purchase up to 1,801,802 shares of Common Stock, for an aggregate purchase price of approximately \$15 million.

During 2013, we received gross proceeds of approximately \$0.4 million from the exercise of warrants and common stock options to purchase 30,499 shares of common stock.

On June 20, 2014, we completed the acquisition of substantially all of the assets of EGEN. At the closing, we paid approximately \$3.0 million in cash and issued 2,712,188 shares of its common stock to EGEN. In addition, 670,070 shares of our common stock were held back by us at the closing and are issuable to EGEN on or after August 2, 2016 pending certain potential adjustments for expenses or in relation to EGEN's indemnification obligations under the EGEN Purchase Agreement

In addition, we entered into a loan agreement on November 25, 2013 with Hercules Technology Growth Capital, Inc. (Hercules), pursuant to which we may borrow a secured term loan of up to \$20 million in multiple tranches (the Hercules Credit Agreement). The loan bears interest at a floating per annum rate equal to the greater of (i) 11.25 percent and (ii) the sum of 11.25 percent plus the prime rate minus 3.25 percent. Payments under the loan agreement are interest only for the first twelve months after loan closing, followed by a 30-month amortization period of principal and interest through the scheduled maturity date. We drew the first tranche of \$5 million on November 25, 2013 and may request, subject to Hercules' consent in its sole discretion, an additional \$15 million in up to three advances with each advance in a minimum amount of \$5 million before June 30, 2014 unless extended upon Hercules' consent. We used approximately \$4 million of the first tranche to repay the outstanding obligations under a loan agreement with Oxford Finance LLC and Horizon Technology Finance Corporation. On June 9, 2014, we drew down an additional \$5 million and used the loan proceeds to pay the upfront cash payment to EGEN at closing of the asset acquisition.

We believe that our cash and investment resources of \$37.1 million on hand at December 31, 2014, coupled with our access to the ATM, are sufficient to fund operations through 2016. However, our future capital requirements will depend upon numerous unpredictable factors, including, without limitation, the cost, timing, progress and outcomes of clinical studies and regulatory reviews of our proprietary drug candidates, our efforts to implement new collaborations, licenses and strategic transactions, general and administrative expenses, capital expenditures and other unforeseen uses of cash. To complete the development and commercialization of our products, we will need to raise substantial amounts of additional capital to fund our operations. We do not have any committed sources of financing and cannot give assurance that alternate funding will be available in a timely manner, on acceptable terms or at all. We may need to pursue dilutive equity financings, such as the issuance of shares of common stock, preferred stock,

convertible debt or other convertible or exercisable securities, which financings could dilute the percentage ownership of our current common stockholders and could significantly lower the market value of our common stock.

Please refer to Item IA, Risk Factors, including, but not limited to, *“We will need to raise substantial additional capital to fund our planned future operations, and we may be unable to secure such capital without dilutive financing transactions. If we are not able to raise additional capital, we may not be able to complete the development, testing and commercialization of our product candidates.”*

### **Critical Accounting Policies and Estimates**

Our financial statements, which appear at Item 7 to this Annual Report on Form 10-K, have been prepared in accordance with accounting principles generally accepted in the United States, which require that we make certain assumptions and estimates and, in connection therewith, adopt certain accounting policies. Our significant accounting policies are set forth in Note 1 to our financial statements. Of those policies, we believe that the policies discussed below may involve a higher degree of judgment and may be more critical to an accurate reflection of our financial condition and results of operations.

### *Stock-Based Compensation*

We follow the provisions of ASC topic 718 "Compensation" which requires the expense recognition over a service period for the fair value of share based compensation awards, such as stock options, restricted stock and performance based shares. This standard allows us to establish modeling assumptions as to expected stock price volatility, option terms, forfeiture and dividend rates, which directly impact estimated fair value as determined. Our practice is to utilize reasonable and supportable assumptions which are reviewed with our board of directors and its appropriate committee.

### *Common Stock Offering*

Prior to the closing of the Common Stock Offering on June 3, 2013, there were an insufficient number of authorized shares to complete the transaction. The investors in the Common Stock Offering also held warrants to purchase common stock of the Company which were issued in connection with previous offerings. Concurrent with the closing of the Common Stock Offering, the institutional investors agreed to waive their rights to exercise these warrants to purchase 1,398,816 shares of common stock of the Company (the Waived Warrants) until the Company has obtained stockholders' approval to increase the number of its authorized shares of common stock in conjunction with the proposed reverse stock split of its outstanding shares of common stock. At the Company's 2013 Annual Meeting of Stockholders held on July 19, 2013, the Company's stockholders voted to approve the proposal to grant discretionary authority to the Board of Directors to amend the Certificate of Incorporation of the Company, as amended, to effect, at any time on or prior to the date of the 2014 Annual Meeting of Stockholders, a reverse stock split at an exchange ratio within the specified range and to set the number of authorized shares effective immediately after the reverse stock split at 75 million shares. On October 28, 2013, the Company effected a 4.5-to-1 reverse stock split of its common stock.

The warrants described above were originally recorded as equity at the fair value on the date of issuance. In accordance with ASC 815-40, *Derivative Instruments and Hedging - Contracts in Entity's Own Equity*, the Waived Warrants were required to be liability classified immediately after the closing of the Common Stock Offering on June 3, 2013 because there were an insufficient number of common shares authorized to permit the full exercise of the warrants. Therefore on June 3, 2013, the Company reclassified the fair value of the Waived Warrants totaling approximately \$9.1 million from equity to a liability. The Waived Warrants were required to be recorded at fair value at each balance sheet date with changes in fair value recorded in earnings until such time as there were a sufficient number of common shares authorized to permit the full exercise of the warrants. In connection with the Reverse Stock Split, these warrants were valued as of October 28, 2013, and the Company reclassified the fair value of the Waived Warrants totaling approximately \$5.3 million from a liability to equity.

### *Goodwill and In-Process Research and Development*



During 2014, the Company acquired certain assets of EGEN, Inc. As more fully described in Note 5 to our Consolidated Financial Statements, the acquisition was accounted for under the acquisition method of accounting which required the Company to perform an allocation of the purchase price to the assets acquired and liabilities assumed. Under the acquisition method of accounting, the total purchase price is allocated to net tangible and intangible assets and liabilities based on their estimated fair values as of the acquisition date.

We review our financial reporting and disclosure practices and accounting policies on an ongoing basis to ensure that our financial reporting and disclosure system provides accurate and transparent information relative to the current economic and business environment. As part of the process, the Company reviews the selection, application and communication of critical accounting policies and financial disclosures. The preparation of our financial statements in conformity with accounting principles generally accepted in the United States requires that our management make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. We review our estimates and the methods by which they are determined on an ongoing basis. However, actual results could differ from our estimates.

## Results of Operations

### *Comparison of Fiscal Year Ended December 31, 2014 and Fiscal Year Ended December 31, 2013.*

#### Licensing Revenue

In January 2013, we entered into a technology development contract with Hisun, pursuant to which Hisun paid us a non-refundable technology transfer fee of \$5.0 million to support our development of ThermoDox® in the China territory. The \$5.0 million received as a non-refundable payment from Hisun in the first quarter 2013 has been recorded to deferred revenue and will be amortized over the ten year term of the agreement; therefore we recognized revenue of \$500,000 in each of the years 2014 and 2013.

#### Research and Development Expenses

Research and development expenses increased by \$5.6 million from \$9.4 million in 2013 to \$15.0 million in 2014. Costs associated with the HEAT Study decreased to \$0.6 million in 2014 compared to \$3.7 million in 2013 primarily due to the reduced costs associated with the HEAT Study as we follow patients for overall survival. We incurred costs of \$4.8 million related to the initiation of the OPTIMA Study in 2014. Costs associated with our RCW breast cancer clinical trial remained relatively unchanged at \$0.4 million in 2014 and 2013. Other clinical costs were \$1.8 million in 2014 compared to \$1.2 million in 2013. The increase is mostly attributable to an increase in personnel costs and professional fees. Other research and development costs related to preclinical operations and regulatory operations remained relatively unchanged at \$1.4 million in 2014 compared to \$1.3 million in 2013. Costs associated with the production of ThermoDox® to support the OPTIMA Study increased to \$3.8 million in 2014 compared to \$2.8 million incurred in 2013. During the second half of 2014, the Company completed integration of the operations of the business acquired from EGEN, Inc. into our wholly owned subsidiary, CLSN Laboratories. Costs associated with CLSN Laboratories were \$2.3 million for the period from the date of acquisition on June 20, 2014 through December 31, 2014.

As we continue to evaluate ThermoDox® in the OPTIMA Study and the DIGNITY Study and plan to initiate the Phase I dose-escalation clinical trial of GEN-1 in the second half of 2015, we expect our research and development costs to increase in 2015 compared to 2014.

#### General and Administrative Expenses

General and administrative expenses increased by \$2.4 million to \$8.9 million in 2014 compared to \$6.5 million in 2013. This increase is primarily the result of increases in insurance costs of \$0.7 million, increases in personnel costs of \$1.0 million and increases in legal and professional fees. The increased personnel costs reflect a \$0.7 million increase in non-cash stock compensation expense.

#### Acquisition Costs

Acquisition costs were \$1.4 million for 2014. The transaction-related expenses consisted of legal and professional fees related to the June 20, 2014 acquisition of substantially all of the assets of EGEN.

#### Change in Common Stock Warrant Liability

A warrant liability was incurred as a result of warrants we issued in a public offering in September 2009. The liability associated with these warrants is calculated at its fair market value using the Black-Scholes option-pricing model and is adjusted at the end of each quarter. In addition, in connection with a common stock offering in the second quarter of 2013, the investors in the offering agreed to waive their rights to exercise the warrants to purchase 1,398,816 shares of common stock of the Company until the Company affected a reverse stock split and increased the number of its authorized shares of common stock. During the second quarter of 2013, the Company reclassified the fair value of these warrants totaling \$9.1 million from equity to a liability on the date of the closing of the offering on June 3, 2013. Prior to the offering the warrants described above were originally recorded as equity at the fair value on the date of their issuance. In accordance with ASC 815-40, Derivative Instruments and Hedging – *Contracts in Entity's Own Equity*, these warrants were required to be classified as liabilities immediately after the closing of the common stock offering on June 3, 2013 because there was an insufficient number of common shares authorized to permit the full exercise of the warrants if they were exercised. Therefore, these warrants are required to be recorded at fair value at each balance sheet date with changes in fair value recorded in earnings. In connection with the reverse stock split the Company affected on October 28, 2013, these warrants were valued as of October 28, 2013, and the Company reclassified the fair value of these warrants totaling approximately \$5.3 million from a liability to equity. Furthermore, in connection with the warrants we issued for 97,493 shares of the Company's common stock in connection with the Hercules Credit Agreement in November 2013 and then with the warrant for the additional 97,493 shares of the Company's common stock which became available and exercisable at the time of the second \$5.0 million tranche in June 2014, we recorded an additional warrant liability of \$0.5 million in 2014.

Collectively these warrant liabilities are required to be recorded at fair value at each balance sheet date with changes in fair value recorded in earnings. At December 30, 2014, the fair value of all of these liabilities was \$0.3 million and we recorded a non-cash benefit of \$0.2 million based on the change in the fair value of the warrants at December 31, 2014. During 2013, the decrease in the fair value of this liability resulted in the Company recording a non-cash benefit of \$8.1 million based on the change in the fair value of the warrants at December 31, 2013.

*Change in Earn-Out Milestone Liability*

The total aggregate purchase price for the acquisition of assets from EGEN Acquisition included potential future earn-out payments contingent upon achievement of certain milestones. The difference between the aggregate \$30.4 million in future earn-out payments and the \$13.9 million included in the fair value of the acquisition consideration at June 20, 2014 was based on the Company's risk-adjusted assessment of each milestone and utilizing a discount rate based on the estimated time to achieve the milestone. These milestone payments will be fair valued at the end of each quarter and any change in their value will be recognized in the financial statement. As of December 31, 2014, the Company fair valued these milestones at \$13.7 million and recognized a gain of \$213,949 as a result of the change in the fair value of these milestones from June 30, 2014.

*Investment income and interest expense*

In connection with its debt facilities the Company incurred \$1.3 million and \$0.9 million in interest expense in 2014 and 2013, respectively.

*Other (expense) income*

Other (expense) income for 2014 and 2013 was not significant.

***Comparison of Fiscal Year Ended December 31, 2013 and Fiscal Year Ended December 31, 2012.***

*Licensing Revenue*

On January 18, 2013, we entered into a technology development contract with Hisun, pursuant to which Hisun paid us a non-refundable research and development fee of \$5 million to support our development of ThermoDox® in the China territory. The \$5.0 million received as a non-refundable payment from Hisun in the first quarter 2013 has been recorded to deferred revenue and will continue to be amortized over the 10 year term of the agreement. Therefore we recorded deferred revenue of \$500,000 in 2013. We had no licensing revenue in 2012.

Research and Development Expenses

Research and development (R&D) expenses decreased by \$6.4 million from \$15.8 million in 2012 to \$9.4 million in 2013. Costs associated with the HEAT Study decreased to \$3.7 million in 2013 compared to \$7.7 million in 2012 primarily due to reduced costs associated with the HEAT Study after the data results were announced on January 31, 2013. Costs associated with our recurrent chest wall breast cancer clinical trial (the DIGNITY Study) remained relatively unchanged at \$0.4 million in 2013 compared to 2012. As a result of our decision to delay our colorectal liver metastases trial (the ABLATE Study) following the announcement of the HEAT Study results, the related costs were insignificant in 2013 compared to \$0.2 million in 2012. Other R&D costs related to preclinical operations and regulatory operations decreased to \$1.0 million in 2013 compared to \$2.0 million in 2012. Costs associated with the production of ThermoDox® decreased to \$2.8 million in 2013 compared to \$4.0 million the same period of 2012.

In April 2013, the Company implemented a restructuring program to lower its operating costs to conserve capital to ensure that our costs are adequately aligned with our resources and business strategy. The program included elimination of approximately one-third of Celsion's workforce and the deferral of expenses associated with the ABLATE Study.

General and Administrative Expenses

General and administrative expenses increased slightly to \$6.5 million in 2013 compared to \$6.4 million in 2012. This increase is largely the result of an increase in professional fees in 2013 and severance costs (\$0.2 million in 2013) related to the April 2013 restructuring program as discussed above compared to the same period of 2012.

Change in Common Stock Warrant Liability

A warrant liability was incurred as a result of warrants we issued in a public offering in September 2009. The liability associated with these warrants is calculated at its fair market value using the Black-Scholes option-pricing model and is adjusted at the end of each quarter. For 2013, we recorded a non-cash benefit of \$4.3 million based on the change in the fair value of the warrants compared to a non-cash charge of \$4.1 million in the same period of 2012.

In connection with the Common Stock Offering in the second quarter of 2013, the investors in the offering agreed to waive their rights to exercise the warrants to purchase 1,398,816 shares of our common stock until the Company had affected a reverse stock split and increased the number of its authorized shares of common stock. During the second quarter of 2013, we reclassified the fair value of these warrants totaling \$9.1 million from equity to a liability on the date of the closing of the offering on June 3, 2013. Prior to the offering the warrants described above were originally recorded as equity at the fair value on the date of their issuance. In accordance with ASC 815-40, *Derivative Instruments and Hedging - Contracts in Entity's Own Equity*, these warrants were required to be classified as liabilities immediately after the closing of the common stock offering on June 3, 2013 because there were an insufficient number of common shares authorized to permit the full exercise of the warrants if they were exercised. Therefore, these warrants are required to be recorded at fair value at each balance sheet date with changes in fair value recorded in earnings. In connection with the reverse stock split we affected on October 28, 2013, these warrants were valued as of October 28, 2013, and we reclassified the fair value of the Waived Warrants totaling approximately \$5.3 million from a liability to equity. The change in the fair value of the warrants which were waived from the time they were liability classified to the time they were equity reclassified resulted in a non-cash benefit of \$3.8 million in 2013.

Collectively, we recorded a non-cash benefit totaling \$8.1 million in 2013 compared to recording a non-cash charge of \$4.1 million in 2012.

Investment income and interest expense

Interest expense in 2013 was \$0.9 million compared to \$0.4 million in 2012. We entered into a \$5 million loan facility in June 2012. We repaid this loan facility in full on November 25, 2013 by using proceeds from the first tranche of \$5 million we withdrew under the Hercules Credit Agreement entered into on November 25, 2013. Investment income was not significant in 2013 and 2012.

Other (expense) income

Other (expense) income for 2013 and 2012 was not significant.

**Financial Condition, Liquidity and Capital Resources**

Since inception, excluding the net aggregate payments received from Boston Scientific of \$43 million through the divestiture of our medical device business in 2007 (which we received in installments of \$13 million in 2007 and \$15 million in each of 2008 and 2009), we have incurred significant losses and negative cash flows from operations. We have financed our operations primarily through the net proceeds we received in this divestiture, subsequent sales of equity, credit facilities and amounts received under our product licensing agreement with Yakult and our technology development agreement with Hisun. The process of developing and commercializing ThermoDox®, GEN-1 and other product candidates and technologies requires significant research and development work and clinical trial studies, as well as significant manufacturing and process development efforts. We expect these activities, together with our general and administrative expenses to result in significant operating losses for the foreseeable future. Our expenses have significantly and regularly exceeded our revenue, and we had an accumulated deficit of \$195 million at December 31, 2014.

At December 31, 2014, we had total current assets of \$37.5 million (including cash, cash equivalents and short term investments and related interest receivable on short term investments of \$37.1 million) and current liabilities of \$10.1 million, resulting in net working capital of \$27.4 million. At December 31, 2013 we had total current assets of \$43.8 million (including cash, cash equivalents and short term investments and related interest receivable on short term investments of \$43.1 million) and current liabilities of \$4.7 million, resulting in net working capital of \$39.1 million.

Net cash used in operating activities for 2014 was \$21.4 million. Our 2014 net loss included \$2.6 million in non-cash stock-based compensation expense, a \$0.2 million in non-cash benefit based on the change in the common stock warrant liability and a \$0.2 million in non-cash benefit based on the change in the earn-out milestone liability.

The \$21.4 million net cash used in operating activities was mostly funded from cash and short term investments. At December 31, 2014, we had cash, cash equivalents and short term investments and related interest receivable on short term investments of \$37.1 million.

Net cash provided by financing activities was \$18.8 million during the 2014, \$13.8 million of which resulted from net proceeds from sale of our common stock in January 2014 and \$5.0 million in additional proceeds received from the Hercules Credit Agreement in June 2014.

In February 2013, we entered into a Controlled Equity Offering<sup>SM</sup> Sales Agreement (ATM) with Cantor Fitzgerald & Co., as sales agent (Cantor), pursuant to which we may offer and sell, from time to time, through Cantor, shares of our common stock having an aggregate offering price of up to \$25.0 million (the ATM Shares) pursuant to our previously filed and effective Registration Statement on Form S-3. Under the ATM Agreement, Cantor may sell ATM Shares by any method deemed to be an “at-the-market” offering as defined in Rule 415 promulgated under the Securities Act of 1933, as amended, including sales made directly on The NASDAQ Capital Market, on any other existing trading market for the our common stock or to or through a market maker. We will pay Cantor a commission of three percent of the aggregate gross proceeds from each sale of ATM Shares. We have sold and issued an aggregate of 1,195,927 shares under the ATM Agreement so far, receiving approximately \$6.8 million in net proceeds.

We believe that our cash and investment resources of \$37.1 million on hand at December 31, 2014, coupled with our access to the ATM, are sufficient to fund operations through 2016. However, our future capital requirements will depend upon numerous unpredictable factors, including, without limitation, the cost, timing, progress and outcomes of clinical studies and regulatory reviews of our proprietary drug candidates, our efforts to implement new collaborations, licenses and strategic transactions, general and administrative expenses, capital expenditures and other unforeseen uses of cash.

We may seek additional capital through further public or private equity offerings, debt financing, additional strategic alliance and licensing arrangements, collaborative arrangements, or some combination of these financing alternatives. If we raise additional funds through the issuance of equity securities, the percentage ownership of our stockholders could be significantly diluted and the newly issued equity securities may have rights, preferences, or privileges senior to those of the holders of our common stock. If we raise funds through the issuance of debt securities, those securities may have rights, preferences, and privileges senior to those of our common stock. If we seek strategic alliances, licenses, or other alternative arrangements, such as arrangements with collaborative partners or others, we may need to relinquish rights to certain of our existing or future technologies, product candidates, or products we would otherwise seek to develop or commercialize on our own, or to license the rights to our technologies, product candidates, or



products on terms that are not favorable to us. The overall status of the economic climate could also result in the terms of any equity offering, debt financing, or alliance, license, or other arrangement being even less favorable to us and our stockholders than if the overall economic climate were stronger. We also will continue to look for government sponsored research collaborations and grants to help offset future anticipated losses from operations and, to a lesser extent, interest income.

If adequate funds are not available through either the capital markets, strategic alliances, or collaborators, we may be required to delay or, reduce the scope of, or terminate our research, development, clinical programs, manufacturing, or commercialization efforts, or effect additional changes to our facilities or personnel, or obtain funds through other arrangements that may require us to relinquish some of our assets or rights to certain of our existing or future technologies, product candidates, or products on terms not favorable to us.

### **Contractual Obligations**

In 2011, we entered into a lease with Brandywine Operating Partnership, L.P. (Brandywine), a Delaware limited partnership for a 10,870 square foot premises located in Lawrenceville, New Jersey. In October 2011, we relocated our offices to Lawrenceville, New Jersey from Columbia, Maryland. The lease has a remaining term of 28 months. As required by the lease, we provided Brandywine with an irrevocable and unconditional standby letter of credit for \$250,000, which we secured with an escrow deposit at our banking institution of this same amount. The lease stipulated standby letter of credit will be reduced by \$50,000 on each of the 19th, 31st and 43rd months from the initial term, with the remaining \$100,000 amount remaining until the term of the lease has expired. In connection with two \$50,000 reductions of the standby letter of credit in April 2013 and 2014, we reduced the escrow deposit by \$50,000 each time.

In connection with the acquisition of substantially all of the assets of EGEN, Inc., an Alabama corporation, in June 2014, we assumed the existing lease with another landlord for a 11,500 square foot premises located in Huntsville Alabama. This lease has a remaining term of 37 months with monthly rent payments of approximately \$23,200.

Following is a summary of the future minimum payments required under leases that have initial or remaining lease terms of one year or more as of December 31, 2014:

|                                  | <b>Operating</b> |
|----------------------------------|------------------|
|                                  | <b>Leases</b>    |
| For the year ending December 31: |                  |
| 2015                             | \$570,078        |
| 2016                             | 575,513          |
| 2017                             | 378,042          |
| 2018                             | 23,200           |
| 2019 and beyond                  | —                |
| Total minimum lease payments     | \$1,546,833      |

Following is a schedule of future principle payments before debt discount due on the Hercules Credit Agreement:

|                                  | <b>Principle</b> |
|----------------------------------|------------------|
|                                  | <b>Payments</b>  |
| For the year ending December 31: |                  |
| 2015                             | \$3,654,231      |
| 2016                             | 4,091,595        |
| 2017                             | 2,254,174        |
| 2018 and thereafter              | —                |
| Total                            | \$10,000,000     |

#### **Off-Balance Sheet Arrangements**

We do not utilize off-balance sheet financing arrangements as a source of liquidity or financing.

#### **ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

The primary objective of our cash investment activities is to preserve principal while at the same time maximizing the income we receive from our investments without significantly increasing risk. Some of the securities that we invest in

may be subject to market risk. This means that a change in prevailing interest rates may cause the principal amount of the investment to fluctuate. For example, if we hold a security that was issued with a fixed interest rate at the then-prevailing rate and the interest rate later rises, the principal amount of our investment will probably decline. A hypothetical 50 basis point increase in interest rates reduces the fair value of our available-for-sale securities at December 31, 2014 by an immaterial amount. To minimize this risk in the future, we intend to maintain our portfolio of cash equivalents and marketable securities in a variety of securities, including commercial paper, government and non-government debt securities and/or money market funds that invest in such securities. We have no holdings of derivative financial or commodity instruments. As of December 31, 2014, our investments consisted of investments in corporate notes and obligations or in money market accounts and checking funds with variable market rates of interest. We believe our credit risk is immaterial.

**ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA**

The financial statements, supplementary data and report of independent registered public accounting firm are filed as part of this report on pages F-1 through F-34 and incorporated herein by reference.

**ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE**

None.

## ITEM 9A. CONTROLS AND PROCEDURES

### (a) Disclosure Controls and Procedures

We have conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the Exchange Act)) under the supervision, and with the participation, of our management, including our principal executive officer and principal financial officer. Based on that evaluation, our principal executive officer and principal financial officer concluded that as of December 31, 2014, which is the end of the period covered by this Annual Report on Form 10-K, our disclosure controls and procedures are effective.

### (b) Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934. Our internal control over financial reporting is a process designed by, or under the supervision of, our chief executive officer and chief financial officer, or persons performing similar functions, and effected by our board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America (GAAP). Our internal control over financial reporting includes those policies and procedures that: (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and disposition of the assets of the Company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP and that receipts and expenditures of the Company are being made only in accordance with authorization of management and directors of the Company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the financial statements.

Management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2014. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in the 2013 *Internal Control-Integrated Framework* (COSO 2013 Framework). Based on its evaluation, management has concluded that the Company's internal control over financial reporting is effective as of December 31, 2014.

This Annual Report on Form 10-K includes an attestation report of the Company's independent registered public accounting firm, Stegman & Company, regarding internal control over financial reporting.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate. A control system, no matter how well designed and operated can provide only reasonable, but not absolute, assurance that the control system's objectives will be met. The design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their cost.

(c) Changes in Internal Control Over Financial Reporting

There have been no changes in our internal control over financial reporting in the fiscal quarter ended December 31, 2014, which were identified in connection with our management's evaluation required by paragraph (d) of rules 13a-15 and 15d-15 under the Exchange Act, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

(d) Inherent Limitations on the Effectiveness of Controls

Our management, including the chief executive officer and chief financial officer, does not expect that our disclosure controls and procedures and our internal control over financial reporting will prevent all error and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the company have been detected. These inherent limitations include the realities that judgments in decision making can be faulty and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by management override of the control. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

This Annual Report on Form 10-K includes an attestation report of the Company's independent registered public accounting firm, Stegman and Company, regarding internal control over financial reporting.

**ITEM 9B. OTHER INFORMATION**

None.

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**PART III**

**ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE**

The information required by this Item 10 is herein incorporated by reference to the definitive Proxy Statement to be filed with the Securities and Exchange Commission (SEC) pursuant to Regulation 14A within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

**ITEM 11. EXECUTIVE COMPENSATION**

The information required by this Item 11 is herein incorporated by reference to the definitive Proxy Statement to be filed with the SEC pursuant to Regulation 14A within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

**ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS**

The information required by this Item 12 is herein incorporated by reference to the definitive Proxy Statement to be filed with the SEC pursuant to Regulation 14A within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

**ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE**

The information required by this Item 13 is herein incorporated by reference to the definitive Proxy Statement to be filed with the SEC pursuant to Regulation 14A within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.

**ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES**

The information required by this Item 14 is herein incorporated by reference to the definitive Proxy Statement to be filed with the SEC pursuant to Regulation 14A within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K.



## **PART IV**

### **ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES**

#### **1. FINANCIAL STATEMENTS**

The following is a list of the financial statements of Celsion Corporation filed with this Annual Report on Form 10-K, together with the reports of our independent registered public accountants and Management's Report on Internal Control over Financial Reporting.

|   | <b>Page</b> |
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| <b>REPORTS</b>  |             |
| Report of Independent Registered Public Accounting Firm | F-1         |
| <b>FINANCIAL STATEMENTS</b>                             |             |
| Balance Sheets  | F-2         |
| Statements of Operations                                | F-4         |
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| Statements of Cash Flows                                | F-6         |
| Statements of Changes in Stockholders' Equity           | F-7         |
| <b>NOTES TO FINANCIAL STATEMENTS</b>                    | <b>F-10</b> |

#### **2. FINANCIAL STATEMENT SCHEDULES**

All financial statement schedules are omitted because the information is inapplicable or presented in the notes to the financial statements.

#### **3. EXHIBITS**

The following documents are included as exhibits to this report:

**EXHIBIT NO. DESCRIPTION**

- 2.1\* Asset Purchase Agreement dated as of June 6, 2014, by and between Celsion Corporation and EGEN, Inc, incorporated herein by reference to Exhibit 2.1 to the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2014.
- 3.1 Certificate of Incorporation of Celsion, as amended, incorporated herein by reference to Exhibit 3.1 to the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2004.
- 3.2 Certificate of Ownership and Merger of Celsion Corporation (a Maryland Corporation) into Celsion (Delaware) Corporation (inter alia, changing the Company's name to "Celsion Corporation" from "Celsion (Delaware) Corporation), incorporated herein by reference to Exhibit 3.1.3 to the Annual Report on Form 10-K of the Company for the year ended September 30, 2000.
- 3.3 Certificate of Amendment of the Certificate of Incorporation effective and filed on February 27, 2006, incorporated therein by reference to Exhibit 3.1 to the Current Report on Form 8-K of the Company filed on March 1, 2006.
- 3.4 Certificate of Amendment to Certificate of Incorporation of Celsion Corporation, incorporated herein by reference to Exhibit 3.1 to the Current Report on Form 8-K of the Company, filed on October 29, 2013.
- 3.5 By-laws of the Company, as amended and restated, incorporated herein by reference to Exhibit 3.1 to the Current Report on Form 8-K of the Company, filed on December 1, 2011.
- 4.1 Form of Common Stock Certificate, par value \$0.01, incorporated herein by reference to Exhibit 4.1 to the Annual Report on Form 10-K of the Company for the year ended September 30, 2000.

4.2 Form of Common Stock Warrant, incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K of the Company filed on September 28, 2009.

4.3 Registration Rights Agreement, dated June 17, 2010, by and between Celsion Corporation and Small Cap Biotech Value, Ltd., incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K of the Company filed on June 18, 2010.

4.4 Form of Common Stock Warrant, incorporated herein by reference to Exhibit 4.2 to the Current Report on Form 8-K of the Company filed on January 18, 2011.

4.5 Form of Common Stock Warrant incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K of the Company filed on June 2, 2011.

4.6 Registration Rights Agreement, dated May 26, 2011, by and among Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.2 to the Current Report on Form 8-K of the Company filed on June 2, 2011.

4.7 Form of Common Stock Purchase Warrant, incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K of the Company filed on July 6, 2011.

4.8 Registration Rights Agreement, dated July 25, 2011, by and between Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.3 to the Current Report on Form 8-K of the Company filed on July 25, 2011.

4.9 Form of Common Stock Purchase Warrant, incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K of the Company filed on July 25, 2011.

4.10 Form of Warrant to Purchase Common Stock, incorporated herein by reference to Exhibit 4.2 to the Current Report on Form 8-K of the Company filed on July 25, 2011.

4.11 Form Warrant to Purchase Common Stock Purchase, incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K filed on December 6, 2011.

4.12 Registration Rights Agreement, dated December 1, 2011, by and between Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.3 to the Current Report on Form 8-K of the Company filed on December 6, 2011.

4.13 Warrant to Purchase Stock, dated June 27, 2012, by and between Celsion Corporation and Oxford Financing LLC, incorporated herein by reference to Exhibit 4.1 to the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2012.

4.14 Warrant to Purchase Stock, dated June 27, 2012, by and between Celsion Corporation and Horizon Technology Finance Corporation, incorporated herein by reference to Exhibit 4.2 to the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2012.

4.15 Form of Common Stock Purchase Warrant, incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K of the Company filed on February 26, 2013.

4.16 Form of Series A Common Stock Purchase Warrant, incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K of the Company filed on January 21, 2014.

4.17 Form of Series B Common Stock Purchase Warrant, incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K of the Company filed on January 21, 2014.

4.18 Warrant Agreement to Purchase Shares of the Common Stock dated as of November 25, 2013, by and between Celsion Corporation and Hercules Technology Growth Capital, Inc., incorporated herein by reference to Exhibit 4.2 to the Registration Statement on Form S-3 (File No.: 333-193936) filed on February 13, 2014.

Registration Agreement dated as of November 25, 2013, by and between Celsion Corporation and Hercules  
4.19 Technology Growth Capital, Inc., incorporated herein by reference to Exhibit 4.3 to the Registration Statement on  
Form S-3 (File No.: 333-193936) filed on February 13, 2014.

Registration Rights Agreement dated as of June 20, 2014, by and between Celsion Corporation and Egen, Inc.,  
4.20 incorporated herein by reference to Exhibit 4.1 to the Quarterly Report on Form 10-Q of the Company for the  
quarter ended June 30, 2014.

10.1\*\*\* Celsion Corporation 2004 Stock Incentive Plan, incorporated herein by reference to Exhibit 10.1 to the  
Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2004.

10.2\*\*\* Celsion Corporation 2007 Stock Incentive Plan, as amended, incorporated herein by reference to Exhibit  
10.1 to the Current Report on Form 8-K of the Company filed on June 23, 2014.

10.3\*\*\* Form of Restricted Stock Agreement for Celsion Corporation 2004 Stock Incentive Plan, incorporated  
herein by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q of the Company for the quarter  
ended September 30, 2006.

10.4\*\*\* Form of Stock Option Grant Agreement for Celsion Corporation 2004 Stock Incentive Plan, incorporated  
herein by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q of the Company for the quarter  
ended September 30, 2006.

10.5\*\*\* Form of Restricted Stock Agreement for Celsion Corporation 2007 Stock Incentive Plan, incorporated  
herein by reference to Exhibit 10.1.5 to the Annual Report on Form 10-K of the Company for the year ended  
December 31, 2007.

10.6\*\*\* Form of Stock Option Grant Agreement for Celsion Corporation 2007 Stock Incentive Plan, incorporated  
herein by reference to Exhibit 10.1.6 to the Annual Report on Form 10-K of the Company for the year ended  
December 31, 2007.

10.7\*\*\* Stock Option Agreement effective January 3, 2007, between Celsion Corporation and Michael H. Tardugno,  
incorporated herein by reference Exhibit 10.1 to the Current Report on Form 8-K of the Company filed on  
January 3, 2007.

10.8\*\*\*+ Amended and Restated Employment Agreement, effective December 5, 2014, between Celsion Corporation  
and Mr. Michael H. Tardugno.

10.9\*\*\* Employment Offer Letter, entered into on June 15, 2010, between the Company and Jeffrey W. Church,  
incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company filed on  
June 18, 2010.

10.10\* Patent License Agreement between the Company and Duke University dated November 10, 1999,  
incorporated herein by reference to Exhibit 10.9 to the Annual Report on Form 10-K of the Company for the  
year ended September 30, 1999.

10.11\* License Agreement dated July 18, 2003, between the Company and Duke University, incorporated herein by  
reference to Exhibit 10.1 to the Registration Statement of the Company (File No. 333-108318) filed on

August 28, 2003.

10.12\* Settlement and License Agreement dated February 7, 2007, by and among Celsion Corporation, American Medical Systems and AMS Research Corporation, incorporated herein by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q of the Company for the quarter ended March 31, 2007.

10.13\* Development, Product Supply and Commercialization Agreement, effective December 5, 2008, by and between the Company and Yakult Honsha Co., Ltd., incorporated herein by reference to Exhibit 10.15 to the Annual Report on Form 10-K of the Company for the year ended December 31, 2008.

- 10.14\* The 2nd Amendment To The Development, Product Supply And Commercialization Agreement, effective January 7, 2011, by and between the Company and Yakult Honsha Co., Ltd. incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company filed on January 18, 2011.
- 10.15 Lease Agreement, executed July 21, 2011, by and between Celsion Corporation and Brandywine Operating Partnership, L.P., incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company filed on July 25, 2011.
- 10.16\*\*\* Change in control severance agreement, dated November 29, 2011, by and between Celsion Corporation and Michael H. Tardugno, incorporated herein by reference to Exhibit 10.38 to the Annual Report on Form 10-K/A of the Company for the year ended December 31, 2011.
- 10.17\*\*\* Change in control severance agreement, dated November 29, 2011, by and between Celsion Corporation and Nicholas Borys, M.D., incorporated herein by reference to Exhibit 10.40 to the Annual Report on Form 10-K/A of the Company for the year ended December 31, 2011.
- 10.18\*\*\* Change in control severance agreement, dated November 29, 2011, by and between Celsion Corporation and Jeffrey W. Church, incorporated herein by reference to Exhibit 10.41 to the Annual Report on Form 10-K/A of the Company for the year ended December 31, 2011.
- 10.19\*\*\* Change in control severance agreement, dated November 29, 2011, by and between Celsion Corporation and Robert A. Reed, incorporated herein by reference to Exhibit 10.42 to the Annual Report on Form 10-K/A of the Company for the year ended December 31, 2011.
- 10.20\* Technology Development Agreement effective as of May 7, 2012, by and between Celsion Corporation and Zhejiang Hisun Pharmaceutical Co. Ltd., incorporated herein by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2012.
- 10.21 Loan and Security Agreement, dated June 27, 2012, by and among Celsion Corporation, Oxford Finance LLC, as collateral agent, and the lenders named therein, incorporated herein by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2012.
- 10.22 Controlled Equity Offering<sup>SM</sup> Sales Agreement, dated February 1, 2013, by and between Celsion Corporation and Cantor Fitzgerald & Co., incorporated herein by reference to the Current Report on Form 8-K of the Company filed on February 1, 2013.
- 10.23 Securities Purchase Agreement, dated February 22, 2013, by and among Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company filed on February 26, 2013.
- 10.24\* Technology Development Contract dated as of January 18, 2013, by and between Celsion Corporation and Zhejiang Hisun Pharmaceutical Co. Ltd., incorporated herein by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q of the Company for the quarter ended March 31, 2013.
- 10.25+ Loan and Security Agreement dated as of November 25, 2013, by and between Celsion Corporation and Hercules Technology Growth Capital, Inc., incorporated herein by reference to Exhibit 10.28 to the Annual Report on Form 10-K of the Company for the year ended December 31, 2014.

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- 10.26 Securities Purchase Agreement dated as of January 15, 2014, by and between Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company filed on January 21, 2014.
- 10.27\*\*\*+Employment Offer Letter effective as of June 20, 2014, between the Company and Khursheed Anwer.
- 21.1+ Subsidiaries of Celsion Corporation
- 23.1+ Consent of Stegman & Company, independent registered public accounting firm for the Company.
- 31.1+ Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.



- 31.2+ Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 32.1^ Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 32.2^ Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

The following materials from the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2014, formatted in XBRL (Extensible Business Reporting Language): (i) the audited Consolidated Balance 101\*\* Sheets, (ii) the audited Consolidated Statements of Operations, (iii) the audited Consolidated Statements of Comprehensive Loss, (iv) the audited Consolidated Statements of Cash Flows, (v) the audited Consolidated Statements of Changes in Stockholders' Equity and (vi) Notes to Consolidated Financial Statements.

- Portions of this exhibit have been omitted pursuant to a request for confidential treatment under Rule 24b-2 of the
- \* Securities Exchange Act of 1934, amended, and the omitted material has been separately filed with the Securities and Exchange Commission.
  - + Filed herewith.
  - ^ Furnished herewith.
  - \*\* XBRL information is filed herewith.
  - \*\*\* Management contract or compensatory plan or arrangement.

## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused its annual report on Form 10-K to be signed on its behalf by the undersigned thereunto duly authorized.

CELSION CORPORATION  
Registrant

March 12, 2015 By: */s/ MICHAEL H. TARDUGNO*  
Michael H. Tardugno  
Chairman of the Board, President and  
  
Chief Executive Officer

March 12, 2015 By: */s/ JEFFREY W. CHURCH*  
Jeffrey W. Church  
Senior Vice President and  
  
Chief Financial Officer

Pursuant to the requirement of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of the Registrant and in the capacities and on the dates indicated:

| <b>Name</b>   | <b>Position</b>  | <b>Date</b>    |
|---|--|----------------|
| <i>/s/ MICHAEL H. TARDUGNO</i><br>(Michael H. Tardugno)     | Chairman of the Board, President and Chief Executive Officer (Principal Executive Officer) | March 12, 2015 |
| <i>/s/ JEFFREY W. CHURCH</i><br>(Jeffrey W. Church)         | Senior Vice President and Chief Financial Officer (Principal Financial Officer)            | March 12, 2015 |
| <i>/s/ TIMOTHY J. TUMMINELLO</i><br>(Timothy J. Tumminello) | Controller and Chief Accounting Officer  | March 12, 2015 |

|  |          |                |
|--|----------|----------------|
| <i>/s/ AUGUSTINE CHOW</i><br>(Augustine Chow, PhD.)      | Director | March 12, 2015 |
| <i>/s/ FREDERICK J. FRITZ</i><br>(Frederick J. Fritz)    | Director | March 12, 2015 |
| <i>/s/ ROBERT W. HOOPER</i><br>(Robert W. Hooper)        | Director | March 12, 2015 |
| <i>/s/ ALBERTO R. MARTINEZ</i><br>(Alberto Martinez, MD) | Director | March 12, 2015 |

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders

Celsion Corporation

Lawrenceville, New Jersey

We have audited the accompanying consolidated balance sheets of Celsion Corporation (the “Company”) as of December 31, 2014 and 2013, and the related statements of operations, statements of comprehensive loss, changes in stockholders’ equity, and cash flows for each of the years in the three year period ended December 31, 2014. We also have audited the Company’s internal control over financial reporting as of December 31, 2014, based on criteria established in 2013 *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 COSO). The Company’s management is responsible for these financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management’s Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on these financial statements and an opinion on the Company’s internal control over financial reporting based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have

a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Celsion Corporation as of December 31, 2014 and 2013, and the results of its operations and its cash flows for each of the years in the three year period ended December 31, 2014 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, Celsion Corporation maintained, in all material respects, effective internal control over financial reporting as of December 31, 2014, based on criteria established in 2013 *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 COSO).

*/s/ Stegman & Company*  
Baltimore, Maryland  
March 12, 2015

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**CELSION CORPORATION****CONSOLIDATED BALANCE SHEETS**

|  | <b>December 31,</b> |                     |
|--|---------------------|---------------------|
|  | <b>2014</b>         | <b>2013</b>         |
| <b>ASSETS</b>  |                     |                     |
| <b>Current assets:</b>   |                     |                     |
| Cash and cash equivalents  | \$12,686,881        | \$5,718,504         |
| Investment securities – available for sale, at fair value  | 24,173,406          | 37,156,381          |
| Accrued interest receivable on investment securities   | 210,030             | 212,048             |
| Advances and deposits on clinical programs   | 200,821             | 111,635             |
| Other current assets   | 235,133             | 563,551             |
|  | <b>37,506,271</b>   | <b>43,762,119</b>   |
| <b>Property and equipment</b> (at cost, less accumulated depreciation and amortization of \$1,633,517 and \$1,264,190, respectively) | 1,170,497           | 832,886             |
| <b>Other assets:</b>   |                     |                     |
| In-process research and development  | 25,801,728          | –                   |
| Goodwill   | 1,976,101           | –                   |
| Security deposit on letter of credit   | 150,000             | 200,000             |
| Deferred financing fees  | 68,049              | 844,249             |
| Other assets   | 21,886              | 31,318              |
|  | <b>28,017,764</b>   | <b>1,075,567</b>    |
| <b>Total assets</b>  | <b>\$66,694,532</b> | <b>\$45,670,572</b> |

See accompanying notes to the financial statements.

**CELSION CORPORATION****CONSOLIDATED BALANCE SHEETS****(Continued)**

|  | <b>December 31,<br/>2014</b> | <b>2013</b>         |
|--|------------------------------|---------------------|
| <b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>  |                              |                     |
| <b>Current liabilities:</b>  |                              |                     |
| Accounts payable – trade   | \$3,480,225                  | \$1,452,436         |
| Other accrued liabilities  | 2,456,365                    | 2,707,653           |
| Notes payable - current portion  | 3,654,231                    | 10,891              |
| Deferred revenue – current portion   | 500,000                      | 500,000             |
| <b>Total current liabilities</b>   | <b>10,090,821</b>            | <b>4,670,980</b>    |
| Earn-Out milestone liability   | 13,663,710                   | –                   |
| Common stock warrant liability   | 275,008                      | 3,026               |
| Note payable – non-current portion   | 6,053,065                    | 5,000,000           |
| Deferred revenue – non-current portion   | 3,500,000                    | 4,000,000           |
| Other liabilities – noncurrent   | 286,592                      | 472,731             |
| <b>Total liabilities</b>   | <b>33,869,196</b>            | <b>14,146,737</b>   |
| <b>Commitments and contingencies</b>   |                              |                     |
| <b>Stockholders' equity:</b>   |                              |                     |
| Preferred Stock - \$0.01 par value (100,000 shares authorized and no shares issued or outstanding at December 31, 2014 and 2013, respectively)   |                              |                     |
| Common stock - \$0.01 par value (75,000,000 shares authorized; 20,097,603 and 13,737,970 shares issued at December 31, 2014 and 2013 and 19,984,203 and 13,604,975 shares outstanding at December 31, 2014 and 2013, respectively) | 200,976                      | 137,380             |
| Additional paid-in capital   | 229,778,703                  | 203,139,142         |
| Accumulated other comprehensive loss   | (16,032 )                    | (44,166 )           |
| Accumulated deficit  | (195,073,702)                | (169,287,157)       |
|  | 34,889,945                   | 33,945,199          |
| Treasury stock, at cost (113,400 and 132,995 shares at December 31, 2014 and 2013, respectively)   | (2,064,609 )                 | (2,421,364 )        |
| <b>Total stockholders' equity</b>  | <b>32,825,336</b>            | <b>31,523,835</b>   |
| <b>Total liabilities and stockholders' equity</b>  | <b>\$66,694,532</b>          | <b>\$45,670,572</b> |

See accompanying notes to the financial statements.





**CELSION CORPORATION**

**CONSOLIDATED STATEMENTS OF OPERATIONS**

|  | <b>Year ended December 31,</b> |                |                |
|--|--------------------------------|----------------|----------------|
|  | <b>2014</b>                    | <b>2013</b>    | <b>2012</b>    |
| <b>Licensing revenue</b>   | \$500,000                      | \$500,000      | –              |
| <b>Operating expenses:</b>   |                                |                |                |
| Research and development   | 14,969,382                     | 9,364,228      | 15,770,166     |
| General and administrative   | 8,860,549                      | 6,547,257      | 6,372,551      |
| Acquisition costs  | 1,385,263                      | –              | –              |
| Total operating expenses   | 25,215,194                     | 15,911,485     | 22,142,717     |
| <b>Loss from operations</b>  | (24,715,194)                   | (15,411,485)   | (22,142,717)   |
| <b>Other income (expense):</b>   |                                |                |                |
| Gain (loss) from valuation of common stock warrant liability                               | 204,279                        | 8,090,636      | (4,117,534 )   |
| Gain from valuation of earn-out milestone liability  | 213,949                        | –              | –              |
| Investment income (loss), net  | 77,194                         | (12,744 )      | 52,322         |
| Interest expense   | (1,326,438 )                   | (915,235 )     | (359,413 )     |
| Other income (expense)   | 51,937                         | (2,530 )       | (1,040 )       |
| Total other (expense) income   | (779,079 )                     | 7,160,127      | (4,425,665 )   |
| <b>Net loss</b>  | (25,494,273)                   | (8,251,358 )   | (26,568,382)   |
| Non-cash deemed dividend from beneficial conversion feature on convertible preferred stock |                                | (4,601,410 )   |                |
| <b>Net loss attributable to common shareholders</b>  | \$(25,494,273)                 | \$(12,852,768) | \$(26,568,382) |
| <b>Net loss per common share – basic and diluted</b>                                       | \$(1.38 )                      | \$(0.95 )      | \$(3.44 )      |
| <b>Weighted average common shares outstanding – basic and diluted</b>                      | 18,472,399                     | 13,540,566     | 7,730,904      |

See accompanying notes to the financial statements.



**CELSION CORPORATION****CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS**

|   | <b>December 31,</b>   |                      |                       |
|---|-----------------------|----------------------|-----------------------|
|   | <b>2014</b>           | <b>2013</b>          | <b>2012</b>           |
| <b>Net loss</b>   | \$(25,494,273)        | \$(8,251,358)        | \$(26,568,382)        |
| Changes in:   |                       |                      |                       |
| Realized loss on investment securities recognized in investment income, net | 24,727                | 92,364               | 7,580                 |
| Unrealized (loss) gain on investment securities                             | 3,407                 | (9,923 )             | 142,513               |
| Other comprehensive income  | 28,134                | 82,441               | 150,093               |
| <b>Comprehensive loss</b>   | <b>\$(25,466,139)</b> | <b>\$(8,168,917)</b> | <b>\$(26,418,289)</b> |

See accompanying notes to the financial statements

**CELSION CORPORATION**

**CONSOLIDATED STATEMENTS OF CASH FLOWS**

|   | <b>Year ended December 31,</b> |                     |                     |
|---|--------------------------------|---------------------|---------------------|
|   | <b>2014</b>                    | <b>2013</b>         | <b>2012</b>         |
| <b>Cash flows from operating activities:</b>  |                                |                     |                     |
| Net loss  | \$(25,494,273)                 | \$(8,251,358 )      | \$(26,568,382)      |
| Non-cash items included in net loss:  |                                |                     |                     |
| Depreciation and amortization   | 369,327                        | 339,229             | 281,489             |
| Change in fair value of common stock warrant liability                                  | (204,279 )                     | (8,090,636 )        | 4,117,534           |
| Change in fair value of earn-out milestone liability                                    | (213,949 )                     | –                   | –                   |
| Cash received for non-refundable research and development fee                           | –                              | 5,000,000           | –                   |
| Deferred revenue  | (500,000 )                     | (500,000 )          | –                   |
| Stock based compensation  | 2,585,132                      | 1,235,437           | 1,143,764           |
| Shares issued out of treasury   | 64,483                         | 98,046              | 107,049             |
| Amortization of deferred finance charges and debt discount associated with note payable | 437,994                        | 336,387             | 43,215              |
| Amortization of patent license fee  | 7,500                          | 7,500               | 7,500               |
| Change in deferred rent liability   | (24,375 )                      | (18,940 )           | 55,256              |
| Loss realized on sale of investment securities  | 24,727                         | 92,364              | 7,580               |
| Net changes in:   |                                |                     |                     |
| Interest receivable on investments  | 2,018                          | (146,123 )          | 177,820             |
| Prepaid expenses and other current assets   | 77,468                         | (121,235 )          | 585,595             |
| Deposits and other assets   | 1,932                          | (116,181 )          | 18,721              |
| Accounts payable  | 1,764,563                      | (887,332 )          | (1,344,379 )        |
| Other accrued liabilities   | (251,288 )                     | 1,497,566           | (776,955 )          |
| <b>Net cash used in operating activities</b>  | <b>(21,353,020)</b>            | <b>(9,525,276 )</b> | <b>(22,144,193)</b> |
| <b>Cash flows from investing activities:</b>  |                                |                     |                     |
| Purchases of investment securities  | (29,825,918)                   | (66,323,059)        | (16,394,358)        |
| Proceeds from sale and maturity of investment securities                                | 42,812,300                     | 37,194,375          | 18,478,591          |
| Cash used in acquisition of EGEN, Inc., net of cash received                            | (2,820,649 )                   | –                   | –                   |
| Refund on security for letter of credit   | 50,000                         | 50,000              | –                   |
| Purchases of property and equipment   | (672,256 )                     | (57,494 )           | (613,390 )          |
| <b>Net cash provided by (used in) by investing activities</b>                           | <b>9,543,477</b>               | <b>(29,136,178)</b> | <b>1,470,843</b>    |
| <b>Cash flows from financing activities:</b>  |                                |                     |                     |
| Proceeds from sale of preferred stock, net of issuance costs                            | –                              | 13,616,432          | –                   |
| Proceeds from sale of common stock equity, net of issuance costs                        | 13,788,811                     | 15,622,955          | –                   |
| Proceeds from exercise of common stock warrants   | –                              | 261,944             | 10,106,557          |
| Proceeds from exercise of common stock options  | –                              | 184,047             | 697,220             |
| Proceeds from note payable  | 5,000,000                      | 4,763,803           | 4,825,494           |
| Principal payments on note payable  | (10,891 )                      | (5,060,711 )        | (110,287 )          |

|   |              |              |              |
|---|--------------|--------------|--------------|
| <b>Net cash provided by financing activities</b>        | 18,777,920   | 29,388,470   | 15,518,984   |
| <b>Increase (decrease) in cash and cash equivalents</b> | 6,968,377    | (9,272,984 ) | (5,154,366 ) |
| <b>Cash and cash equivalents at beginning of period</b> | 5,718,504    | 14,991,488   | 20,145,854   |
| <b>Cash and cash equivalents at end of period</b>       | \$12,686,881 | \$5,718,504  | \$14,991,488 |
| <b>Cash paid for:</b>                                   |              |              |              |
| Interest  | \$892,600    | \$637,183    | \$359,413    |
| Income taxes  | \$-          | \$-          | \$-          |

See accompanying notes to the financial statements.

## CELSION CORPORATION

## CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY

## YEARS ENDED DECEMBER 31, 2014, 2013 AND 2012

|   | Common Stock          |          |                                  | Treasury Stock |               | Accum.<br>Other<br>Compr.<br>Income | Accumulated<br>Deficit | Total        |
|---|-----------------------|----------|----------------------------------|----------------|---------------|-------------------------------------|------------------------|--------------|
|   | Outstanding<br>Shares | Amount   | Additional<br>Paid in<br>Capital | Shares         | Amount        |                                     |                        |              |
| <b>Balance at January 1, 2012</b>                                   | 7,374,739             | \$75,332 | \$158,887,403                    | 158,384        | \$(2,884,125) | \$(267,700)                         | \$(129,608,341)        | \$26,193,568 |
| Net loss  | -                     | -        | -                                | -              | -             | -                                   | (26,568,382 )          | (26,568,382) |
| Unrealized gain on investments available for sale                   | -                     | -        | -                                | -              | -             | 150,093                             | -                      | 150,093      |
| Valuation of common stock warrants in connection with notes payable | -                     | -        | 73,654                           | -              | -             | -                                   | -                      | 73,654       |
| Conversion of common stock warrants                                 | 845,526               | 8,455    | 10,156,437                       | -              | -             | -                                   | -                      | 10,164,892   |
| Stock-based compensation expense                                    | -                     | -        | 1,143,764                        | -              | -             | -                                   | -                      | 1,143,764    |
| Issuance of restricted stock and option exercise                    | 58,618                | 586      | 696,643                          | -              | -             | -                                   | -                      | 697,220      |
|   | 10,624                | -        | -                                | (10,624 )      | 193,614       | -                                   | (86,565 )              | 107,049      |

Issuance of  
common stock  
out of treasury

**Balance at**

**December 31,** 8,289,507 \$84,373 \$170,957,891 147,760 \$(2,690,511) \$(126,607) \$(156,263,288) \$11,961,858  
**2012**

See accompanying notes to the financial statements.

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## CELSION CORPORATION

## CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (continued)

## YEARS ENDED DECEMBER 31, 2014, 2013 AND 2012

|   | Preferred Stock    |        | Common Stock       |          | Additional Paid in Capital | Treasury Stock |               | Accum. Other Compr. Income | Accumulated Deficit |
|---|--------------------|--------|--------------------|----------|----------------------------|----------------|---------------|----------------------------|---------------------|
|   | Outstanding Shares | Amount | Outstanding Shares | Amount   |                            | Shares         | Amount        |                            |                     |
| <b>Balance at January 1, 2013</b>   |                    |        | 8,289,507          | \$84,373 | \$170,957,891              | 147,760        | \$(2,690,511) | \$(126,607)                | \$(156,263,200)     |
| Net loss  | -                  | -      | -                  | -        | -                          | -              | -             | -                          | (8,251,358)         |
| Preferred stock offering  | 15,001             | 150    | -                  | -        | 18,217,702                 | -              | -             | -                          | -                   |
| Non-cash dividend on beneficial conversion feature associated with the preferred stock offering | -                  | -      | -                  | -        | -                          | -              | -             | -                          | (4,601,410)         |
| Conversion of preferred stock   | (15,001)           | (150)  | 2,682,759          | 26,828   | (26,678)                   | -              | -             | -                          | -                   |
| Registered Direct and ATM common stock offerings  | -                  | -      | 2,588,032          | 25,880   | 15,598,670                 | -              | -             | -                          | -                   |
| Classification of warrants to/from common stock   | -                  | -      | -                  | -        | (3,809,730)                | -              | -             | -                          | -                   |



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|   |   |     |            |           |               |          |               |            |                 |
|---|---|-----|------------|-----------|---------------|----------|---------------|------------|-----------------|
| warrant liability, net  |   |     |            |           |               |          |               |            |                 |
| Conversion of common stock  | - | -   | 18,021     | 180       | 261,764       | -        | -             | -          | -               |
| warrants  |   |     |            |           |               |          |               |            |                 |
| Valuation of common stock warrants in connection with notes payable | - | -   | -          | -         | 521,763       | -        | -             | -          | -               |
| Unrealized gain on investments available for sale                   | - | -   | -          | -         | -             | -        | -             | 82,441     | -               |
| Stock-based compensation expense                                    | - | -   | -          | -         | 1,235,437     | -        | -             | -          | -               |
| Issuance of restricted stock and option exercise                    | - | -   | 12,872     | 129       | 183,918       | -        | -             | -          | -               |
| Issuance of common stock out of treasury                            | - | -   | 14,765     | -         | -             | (14,765) | 269,147       | -          | (171,101)       |
| Fractional share payment  | - | -   | (981)      | (10)      | (1,595)       | -        | -             | -          | -               |
| <b>Balance at December 31, 2013</b>                                 | - | \$- | 13,604,975 | \$137,380 | \$203,139,142 | 132,995  | \$(2,421,364) | \$(44,166) | \$(169,287,101) |

See accompanying notes to the financial statements

## CELSION CORPORATION

## CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (continued)

## YEARS ENDED DECEMBER 31, 2014, 2013 AND 2012

|  | Common Stock          |           | Additional<br>Paid in<br>Capital | Treasury Stock |               | Accum.<br>Other<br>Compr.<br>Income | Accumulated<br>Deficit | Total         |
|--|-----------------------|-----------|----------------------------------|----------------|---------------|-------------------------------------|------------------------|---------------|
|  | Outstanding<br>Shares | Amount    |                                  | Shares         | Amount        |                                     |                        |               |
| <b>Balance at<br/>January 1,<br/>2014</b>  | 13,604,975            | \$137,380 | \$203,139,142                    | 132,995        | \$(2,421,364) | \$(44,166)                          | \$(169,287,157)        | \$31,523,835  |
| Net loss   | -                     | -         | -                                | -              | -             | -                                   | (25,494,273 )          | (25,494,273 ) |
| Registered<br>Direct<br>common stock<br>offering   | 3,603,604             | 36,036    | 13,752,775                       | -              | -             | -                                   | -                      | 13,788,811    |
| Common<br>stock issued in<br>connection<br>with the<br>acquisition of<br>EGEN, Inc.<br>assets                        | 2,712,188             | 27,122    | 10,823,855                       | -              | -             | -                                   | -                      | 10,850,977    |
| Valuation of<br>common stock<br>warrants<br>issued in<br>connection<br>with the<br>November<br>2013 Hercules<br>Loan | -                     | -         | (521,763 )                       | -              | -             | -                                   | -                      | (521,763 )    |
| Unrealized<br>gain on<br>investments<br>available for<br>sale  | -                     | -         | -                                | -              | -             | 28,134                              | -                      | 28,134        |

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|  |            |           |               |          |               |            |                 |              |
|--|------------|-----------|---------------|----------|---------------|------------|-----------------|--------------|
| Stock-based compensation expense         | -          | -         | 2,513,042     | -        | -             | -          | -               | 2,513,042    |
| Issuance of restricted stock             | 43,841     | 438       | 71,652        | -        | -             | -          | -               | 72,090       |
| Issuance of common stock out of treasury | 19,595     | -         | -             | (19,595) | 356,755       | -          | (292,272)       | 64,483       |
| <b>Balance at December 31, 2014</b>      | 19,984,203 | \$200,976 | \$229,778,703 | 113,400  | \$(2,064,609) | \$(16,032) | \$(195,073,702) | \$32,825,336 |

See accompanying notes to the financial statements

## **CELSION CORPORATION**

### **NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

#### **FOR THE YEARS ENDED DECEMBER 31, 2014, 2013 AND 2012**

##### **1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

###### *Description of Business*

Celsion Corporation, a Delaware corporation based in Lawrenceville, New Jersey, and its wholly owned subsidiary, CLSN Laboratories, Inc., also a Delaware corporation, referred to herein as “Celsion”, “we”, or “the Company,” as the context requires, is a fully-integrated oncology drug development company focused on developing a portfolio of innovative cancer treatments, including directed chemotherapies, immunotherapies and RNA- or DNA-based therapies. Our lead program is ThermoDox®, a proprietary heat-activated liposomal encapsulation of doxorubicin, currently in Phase III development for the treatment of primary liver cancer. Our pipeline also includes GEN-1 (formerly known as EGEN-001), a DNA-based immunotherapy for the localized treatment of ovarian and brain cancers. We have three platform technologies for the development of treatments for those suffering with difficult-to-treat forms of cancer, novel nucleic acid-based immunotherapies and other anti-cancer DNA or RNA therapies, including TheraPlas™ and TheraSilence™. We are working to develop and commercialize more efficient, effective and targeted oncology therapies based on our technologies, with the goal to develop novel therapeutics that maximize efficacy while minimizing side-effects common to cancer treatments.

###### *Basis of Presentation*

The accompanying consolidated financial statements of Celsion have been prepared in accordance with generally accepted accounting principles (“GAAP”) in the United States and include the accounts of the Company and CLSN Laboratories, Inc. All intercompany balances and transactions have been eliminated. The preparation of financial statements in conformity with GAAP requires management to make judgments, estimates, and assumptions that affect the amount reported in the Company’s financial statements and accompanying notes. Actual results could differ materially from these estimates.

Events and conditions arising subsequent to the most recent balance sheet date have been evaluated for their possible impact on the financial statements and accompanying notes. No events and conditions would give rise to any information that required accounting recognition or disclosure in the financial statements other than those arising in the ordinary course of business. See Note 18 for a summary of subsequent events.

Certain items in the prior period financial statements have been reclassified to conform to the current period presentation.

#### *Revenue Recognition*

At the inception of each collaborative agreement that includes milestone payments, the Company evaluates whether each milestone is substantive on the basis of the contingent nature of the milestone, specifically reviewing factors such as the scientific and other risks that must be overcome to achieve the milestone, as well as the level of effort and investment required. Milestones that are not considered substantive and that do not meet the separation criteria are accounted for as license payments and recognized on a straight-line basis over the remaining period of performance. Payments received or reasonably assured after performance obligations are met completely are recognized as earned.

#### *Cash and Cash Equivalents*

Cash and cash equivalents include cash on hand and investments purchased with an original maturity of three months or less. A portion of these funds are not covered by FDIC insurance.

#### *Fair Value of Financial Instruments*

The carrying values of financial instruments approximate their respective fair values.

### *Short Term Investments*

The Company classifies its investments in marketable securities with readily determinable fair values as investments available-for-sale in accordance with Accounting Standards Codification (ASC) 320, *Investments - Debt and Equity Securities*. Available-for-sale securities consist of debt and equity securities not classified as trading securities or as securities to be held to maturity. The Company has classified all of its investments as available-for-sale. Unrealized holding gains and losses on available-for-sale securities are reported as a net amount in accumulated other comprehensive gain or loss in stockholders' equity until realized. Gains and losses on the sale of available-for-sale securities are determined using the specific identification method. The Company's short term investments consist of corporate bonds and government agency bonds.

### *Property and Equipment*

Property and equipment is stated at cost less accumulated depreciation. Depreciation is provided over the estimated useful lives of the related assets, ranging from three to seven years, using the straight-line method. Major renewals and improvements are capitalized at cost and ordinary repairs and maintenance are charged against operating expenses as incurred. Depreciation expense was approximately \$369,000, \$339,000 and \$281,500 for years ended December 31, 2014, 2013 and 2012, respectively.

The Company reviews property and equipment for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. An asset is considered impaired if its carrying amount exceeds the future net undiscounted cash flows that the asset is expected to generate. If such asset is considered to be impaired, the impairment recognized is the amount by which the carrying amount of the asset, if any, exceeds its fair value determined using a discounted cash flow model.

### *Deposits*

Deposits include real property security deposits and other deposits which are contractually required and of a long-term nature.

### *Goodwill and In-Process Research and Development*

During 2014, the Company acquired certain assets of EGEN, Inc. As more fully described in Note 5, the acquisition was accounted for under the acquisition method of accounting which required the Company to perform an allocation of the purchase price to the assets acquired and liabilities assumed. Under the acquisition method of accounting, the total purchase price is allocated to net tangible and intangible assets and liabilities based on their estimated fair values as of the acquisition date.

#### *Patent Licenses*

The Company has purchased several licenses for rights to patented technologies. Patent license costs of \$63,125 have been capitalized and are amortized on a straight-line basis over the estimated life of the related patent. As of December 31, 2014, the total accumulated amortization expense is \$41,500. The weighted-average amortization period for these assets is 10 years.

#### *Comprehensive Income (Loss)*

ASC 220, *Comprehensive Income*, establishes standards for the reporting and display of comprehensive income and its components in the Company's consolidated financial statements. The objective of ASC 220 is to report a measure (comprehensive income (loss)) of all changes in equity of an enterprise that result from transactions and other economic events in a period other than transactions with owners.

#### *Research and Development*

Research and development costs are expensed as incurred. Equipment and facilities acquired for research and development activities that have alternative future uses are capitalized and charged to expense over their estimated useful lives.

### *Net Loss Per Common Share*

Basic and diluted net income/(loss) per common share was computed by dividing net income/(loss) for the year by the weighted average number of shares of Common Stock outstanding, both basic and diluted, during each period. The impact of Common Stock equivalents has been excluded from the computation of diluted weighted average common shares outstanding in periods where there is a net loss, as their effect is anti-dilutive.

For the years ended December 31, 2014, 2013 and 2012, outstanding equity awards of 1,751,773, 863,462 and 729,825 shares, respectively, and warrants outstanding to purchase 5,069,815, 3,170,520 and 1,747,478 shares, respectively, were considered anti-dilutive and therefore were not included in the calculation of diluted shares.

### *Income Taxes*

Income taxes are accounted for under the asset and liability method. Under this method, deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carry forwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax asset and liabilities of a change in tax rates is recognized in results of operations in the period that the tax rate change occurs. Valuation allowances are established, when necessary, to reduce deferred tax assets to the amount expected to be realized. In accordance with ASC 740, *Income Taxes*, a tax position is recognized as a benefit only if it is “more likely than not” that the tax position taken would be sustained in a tax examination, presuming that a tax examination will occur. The Company recognizes interest and/or penalties related to income tax matters in the income tax expense category. The Company remains subject to examination for income tax returns for the years ending after 2010.

### *Stock-Based Compensation*

Compensation costs for all stock-based awards is measured at fair value on the date of the grant and recognized over the service period for awards expected to vest. Such value is recognized as expense over the service period. The estimation of stock-based awards that will ultimately vest requires judgment, and to the extent actual results or updated estimates differ from the current estimates, such amounts will be recorded as cumulative adjustment in the period estimates are revised. We consider many factors when estimating expected forfeitures, including types of awards, employee class, and historical experience.



*Recent Accounting Pronouncements*

From time to time, new accounting pronouncements are issued by FASB and are adopted by us as of the specified effective date. Unless otherwise discussed, we believe that the impact of recently issued accounting pronouncements will not have a material impact on the Company's consolidated financial position, results of operations, and cash flows, or do not apply to our operations.

In May 2014, the FASB issued Accounting Standards Update No. 2014-09 *Revenue from Contracts with Customers* (Topic 606). This guidance is intended to improve and converge with international standards the financial reporting requirements for revenue from contracts with customers. It will be effective for our first quarter of 2017 and early adoption is not permitted.

## **2. FINANCIAL CONDITION**

Since inception, the Company has incurred substantial operating losses, principally from expenses associated with the Company's research and development programs, clinical trials conducted in connection with the Company's product candidates, and applications and submissions to the Food and Drug Administration. The Company believes these expenditures are essential for the commercialization of its technologies. As a result of these expenditures, as well as general and administrative expenses, the Company has an accumulated deficit of \$195 million as of December 31, 2014.

The Company expects its operating losses to continue for the foreseeable future as it continues its product development efforts, and when it undertakes marketing and sales activities. The Company's ability to achieve profitability is dependent upon its ability to obtain governmental approvals, produce, and market and sell its new product candidates. There can be no assurance that the Company will be able to commercialize its technology successfully or that profitability will ever be achieved. The operating results of the Company have fluctuated significantly in the past. The Company expects that its operating results will fluctuate significantly in the future and will depend on a number of factors, many of which are outside the Company's control.

The Company will need substantial additional funding in order to complete the development, testing and commercialization of its oncology product candidates and we have made a significant commitment to heat-activated liposome research and development projects and it is our intention at least to maintain, and possibly increase, the pace and scope of these activities. The commitment to these new projects will require additional external funding, at least until the Company is able to generate sufficient cash flow from sale of one or more of its products to support its continued operations.

If adequate funding is not available, the Company may be required to delay, scale back or terminate certain aspects of its operations or attempt to obtain funds through unfavorable arrangements with partners or others that may force it to relinquish rights to certain of its technologies, products or potential markets or that could impose onerous financial or other terms. Furthermore, if the Company cannot fund its ongoing development and other operating requirements, particularly those associated with its obligations to conduct clinical trials under its licensing agreements, it will be in breach of these licensing agreements and could therefore lose its license rights, which could have material adverse effects on its business. Management is continuing its efforts to obtain additional funds so that the Company can meet its obligations and sustain operations.

### 3. SHORT TERM INVESTMENTS AVAILABLE FOR SALE

Short term investments available for sale of \$24,173,406 and \$37,156,381 as of December 31, 2014 and 2013, respectively, consist of money market funds, commercial paper, corporate debt securities, and government agency debt securities. They are valued at estimated fair value, with unrealized gains and losses reported as a separate component of stockholders' equity in Accumulated Other Comprehensive Income.

Securities available for sale are evaluated periodically to determine whether a decline in their value is other than temporary. The term "other than temporary" is not intended to indicate a permanent decline in value. Rather, it means that the prospects for near term recovery of value are not necessarily favorable, or that there is a lack of evidence to support fair values equal to, or greater than, the carrying value of the security. Management reviews criteria such as the magnitude and duration of the decline, as well as the reasons for the decline, to predict whether the loss in value is other than temporary. Once a decline in value is determined to be other than temporary, the value of the security is reduced and a corresponding charge to earnings is recognized.

A summary of the cost, fair value and maturities of the Company's short-term investments is as follows:

|                               | <b>December 31, 2014</b> |                   | <b>December 31, 2013</b> |                   |
|-------------------------------|--------------------------|-------------------|--------------------------|-------------------|
| <b>Short-term investments</b> | <b>Cost</b>              | <b>Fair Value</b> | <b>Cost</b>              | <b>Fair Value</b> |

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|                              |              |              |              |              |
|------------------------------|--------------|--------------|--------------|--------------|
| Certificate of deposit       | \$5,000,000  | \$4,996,568  | \$3,840,000  | \$3,835,083  |
| Bonds- corporate issuances   | 19,189,438   | 19,176,838   | 33,360,576   | 33,321,298   |
| Total short-term investments | \$24,189,438 | \$24,173,406 | \$37,200,576 | \$37,156,381 |

|   | <b>December 31, 2014</b> |                     | <b>December 31, 2013</b> |                     |
|---|--------------------------|---------------------|--------------------------|---------------------|
|   | <b>Cost</b>              | <b>Fair Value</b>   | <b>Cost</b>              | <b>Fair Value</b>   |
| <b>Short-term investment maturities</b> |                          |                     |                          |                     |
| Within 3 months                         | \$16,881,490             | \$16,872,158        | \$7,799,032              | \$7,797,689         |
| Between 3-12 months                     | 7,307,948                | 7,301,248           | 29,401,544               | 29,358,692          |
| <b>Total</b>                            | <b>\$24,189,438</b>      | <b>\$24,173,406</b> | <b>\$37,200,576</b>      | <b>\$37,156,381</b> |

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Investment income, which includes net realized losses on sales of available for sale securities and investment income interest and dividends, is summarized as follows:

|  | 2014        | 2013        | 2012      |
|--|-------------|-------------|-----------|
| Interest and dividends accrued and paid      | \$1,015,182 | \$748,947   | \$712,947 |
| Accretion of investment premium              | (913,261 )  | (669,344 )  | (652,960) |
| Losses on investment maturity and sales, net | (24,727 )   | (92,346 )   | (7,580 )  |
|  | \$77,194    | \$(12,744 ) | \$52,322  |

In 2009, the Company recorded an equity investment of approximately \$108,000 for stock received as settlement of a transition agreement the Company previously entered into. The \$108,000 asset value reflected the estimated net realizable value of 903,112 shares of Medifocus Inc. at the time of settlement. As of December 31, 2011, this entire amount had been reduced to \$0 and was charged as an unrealized loss in other comprehensive loss. During the fourth quarter of 2012, the Company sold this stock for approximately \$138,000, thereby recording a realized gain of approximately \$30,000 in investment income and reversing the cumulative unrealized loss of \$108,000 in other comprehensive loss.

The following table shows the Company's investment securities gross unrealized losses and fair value by investment category and length of time that individual securities have been in a continuous unrealized loss position at December 31, 2014 and 2013. The Company has reviewed individual securities to determine whether a decline in fair value below the amortizable cost basis is other than temporary.

| Description of Securities   | December 31, 2014   |                                   | December 31, 2013   |                                   |
|---|---------------------|-----------------------------------|---------------------|-----------------------------------|
|   | Fair Value          | Unrealized Holding Gains (Losses) | Fair Value          | Unrealized Holding Gains (Losses) |
| Available for Sale (all unrealized holding gains and losses are less than 12 months at date of measurement) |                     |                                   |                     |                                   |
| Short-term investments with unrealized gains  | —                   | —                                 | \$6,650,095         | \$ 1,907                          |
| Short-term investments with unrealized losses   | 24,173,406          | (16,032 )                         | 30,506,286          | (46,073 )                         |
| <b>Total</b>  | <b>\$24,173,406</b> | <b>\$(16,032 )</b>                | <b>\$37,156,381</b> | <b>\$(44,166 )</b>                |

#### 4. FAIR VALUES OF FINANCIAL INSTRUMENTS

FASB Accounting Standards Codification (ASC) Section 820, *Fair Value Measurements and Disclosures*, establishes a three tier level hierarchy for fair value measurements which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The standard describes three levels of inputs that may be used to measure fair value:

Level 1: Quoted prices (unadjusted) or identical assets or liabilities in active markets that the entity has the ability to access as of the measurement date.

Level 2: Significant other observable inputs other than Level 1 prices such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data.

Level 3: Significant unobservable inputs that reflect a reporting entity's own assumptions that market participants would use in pricing an asset or liability.

The fair values of securities available for sale are determined by obtaining quoted prices on nationally recognized exchanges (Level 1 inputs) or matrix pricing, which is a mathematical technique widely used in the industry to value debt securities without relying exclusively on quoted prices for the specific securities but rather by relying on the securities' relationship to other benchmark quoted securities (Level 2 inputs).

Cash and cash equivalents, other current assets, accounts payable and other accrued liabilities are reflected in the balance sheet at their estimated fair values primarily due to their short-term nature. There were no transfers of assets of liabilities between Level 1 and Level 2 and no transfers in or out of Level 3 during 2014 except for the change in the fair market value of the warrant liability and the change in the earn-out milestone liability were included in earnings.

Assets and liabilities measured at fair value are summarized below:

|  | <b>Total Fair Value on the Balance Sheet</b> | <b>Quoted Prices In Active Markets For Identical Assets</b> | <b>Significant Other Observable Inputs (Level 2)</b> | <b>Significant Unobservable Inputs (Level 3)</b> |
|--|--|---|--|--|
| <b>Assets:</b>                               |  |   |  |  |
| Recurring items as of December 31, 2014      |  |   |  |  |
| Short-term investments available for sale    | \$24,173,406                                 | \$24,173,406  |  |  |
| Non-recurring items as of December 31, 2014  |  |   |  |  |
| In-process research and development (Note 5) | \$25,801,728                                 |   |  | \$ 25,801,728                                    |
| Goodwill (Note 5)                            | \$1,976,101                                  |   |  | \$ 1,976,101                                     |
| Recurring items as of December 31, 2013      |  |   |  |  |
| Short-term investments available for sale    | \$37,156,381                                 | \$37,156,381  |  |  |
| <b>Liabilities:</b>                          |  |   |  |  |
| Recurring items as of December 31, 2014      |  |   |  |  |
| Common stock warrant liability (Note 13)     | \$275,008                                    |   |  | \$ 275,008                                       |
| Earn-out milestone liability (Note 12)       | \$13,663,710                                 |   |  | \$ 13,663,710                                    |

As of December 31, 2013

|  |         |          |
|--|---------|----------|
| Common stock warrant liability (Note 13) | \$3,026 | \$ 3,026 |
|--|---------|----------|

## 5. ACQUISITION OF EGEN, INC.

On June 20, 2014, Celsion completed the acquisition of substantially all of the assets of EGEN, Inc., an Alabama Corporation (EGEN) pursuant to an Asset Purchase Agreement (EGEN Purchase Agreement). CLSN Laboratories, Inc., a Delaware corporation and a wholly-owned subsidiary of Celsion (CLSN Laboratories), acquired all of EGEN's right, title and interest in and to substantially all of the assets of EGEN, including cash and cash equivalents, patents, trademarks and other intellectual property rights, clinical data, certain contracts, licenses and permits, equipment, furniture, office equipment, furnishings, supplies and other tangible personal property. In addition, CLSN Laboratories assumed certain specified liabilities of EGEN, including the liabilities arising out of the acquired contracts and other assets relating to periods after the closing date.

The total aggregate purchase price for the acquisition is up to \$44.4 million, which includes potential future payments of up to \$30.4 million contingent upon achievement of certain milestones set forth in the EGEN Purchase Agreement (Earn-Out Payments). At the closing, Celsion paid approximately \$3.0 million in cash after expense adjustment and issued 2,712,188 shares of its common stock to EGEN. The shares of Celsion's common stock were issued in a private transaction exempt from registration under the Securities Act of 1933, as amended (the Securities Act), pursuant to Section 4(2) thereof. In addition, 670,070 shares of Celsion common stock are issuable to EGEN on or after August 2, 2016 pending satisfactory resolution of any post-closing adjustments of expenses and EGEN's indemnification obligations under the EGEN Purchase Agreement (Holdback Shares). A Registration Statement (File No. 333-198786) was filed on September 16, 2014 and declared effective on September 30, 2014 for the resale of the shares of common stock issued and issuable to EGEN under the EGEN Purchase Agreement.

The Earn-Out Payments of up to \$30.4 million will become payable, in cash, shares of Celsion common stock or a combination thereof, at Celsion's option, as follows:

Certain specified development milestones relating to GEN-1 to treat ovarian cancer patients (\$12.0 million);

Certain specified development milestones relating to GEN-1 to treat GBM cancer patients (\$12.0 million); and

A self-liquidating payment of 50% of all fees received from the licensing of TherSilence (up to \$6.0 million).

On June 9, 2014, Celsion borrowed an additional \$5 million pursuant to a certain Loan and Security Agreement dated as of November 25, 2013, by and between Celsion and Hercules Technology Growth Capital, Inc. (see Note 10). Celsion used the loan proceeds to pay the upfront cash payment at closing and certain transaction costs incurred by Celsion in connection with the acquisition.

The EGEN Purchase Agreement contains customary representations and warranties regarding EGEN and Celsion, covenants regarding the conduct of EGEN's business prior to the consummation of the acquisition, indemnification provisions, termination and other provisions customary for transactions of this nature.

The acquisition of EGEN was accounted for under the acquisition method of accounting which required the Company to perform an allocation of the purchase price to the assets acquired and liabilities assumed. The fair value of the consideration transferred for the acquisition is approximately \$27.6 million determined as follows:

|   |              |
|---|--------------|
| <b>Consideration Paid at Closing</b>  |              |
| Cash, net of cash acquired  | \$2,821,000  |
| Celsion common stock (2,712,188 shares valued at \$3.48 which was the last closing price of our common stock at the time of closing the transaction on June 20, 2014) | 9,438,000    |
| <b>Future Consideration</b>   |              |
| Holdback Shares (670,070 shares of Celsion common stock which were discounted by 38% to reflect the cost of the restriction)  | 1,441,000    |
| Earn-Out Payments (at fair value*)  | 13,878,000   |
| Total fair value of consideration   | \$27,578,000 |

\* The total aggregate purchase price for the Egen Acquisition included potential future Earn-Out Payments contingent upon achievement of certain milestones. The difference between the aggregate \$30.4 million in



future Earn-Out Payments and the \$13.9 million included in the fair value of the acquisition consideration at June 20, 2014 was based on the Company's risk-adjusted assessment of each milestone and utilizing a discount rate based on the estimated time to achieve the milestone. These milestone payments will be fair valued at the end of each quarter and any change in their value will be recognized in the financial statement. As of December 31, 2014, the Company fair valued these milestones at \$13.7 million and recognized a gain of \$231,949 as a result of the change in the fair value of these milestones from June 30, 2014.

Under the acquisition method of accounting, the total purchase price is allocated to EGEN's net tangible and intangible assets and liabilities based on their estimated fair values as of the acquisition date. The table below summarizes the preliminary estimated fair values of EGEN's net tangible and intangible assets and liabilities on the acquisition date. The purchase price allocations are preliminary and subject to change as more detailed analyses are completed and additional information with respect to the fair values of the assets and liabilities acquired becomes available.

|  |              |
|--|--------------|
| Property and equipment, net              | 35,000       |
| In-process research and development      | 25,802,000   |
| Goodwill                                 | 1,976,000    |
| Total assets:                            | 27,813,000   |
| Accounts payable and accrued liabilities | (235,000 )   |
| Net assets acquired                      | \$27,578,000 |

The preliminary purchase price exceeds the estimated fair value of the net assets acquired by approximately \$2.0 million which was recorded as goodwill. Transaction costs associated with the acquisition of assets from EGEN are included in Acquisition Costs in the Condensed Consolidated Statement of Operations and totaled \$1,385,263 from the date of acquisition on June 20, 2014 through December 31, 2014.

#### ***Acquired In-Process Research and Development (IPR&D)***

Acquired IPR&D consists of EGEN's drug technology platforms: TheraPlas<sup>™</sup> and TheraSilence<sup>™</sup>. The fair value of the IPR&D drug technology platforms was estimated to be \$25.8 million as of the acquisition date using the Multi-Period Excess Earnings Method (MPEEM) which is a form of the income approach. Under the MPEEM, the fair value of an intangible asset is equal to the present value of the asset's incremental after-tax cash flows (excess earnings) remaining after deducting the market rates of return on the estimated value of contributory assets (contributory charge) over its remaining useful life.

To calculate fair value of *the IPR&D* programs under the MPEEM, we used projected cash flows discounted at a rate considered appropriate given the significant inherent risks associated with drug development by development-stage companies. Cash flows were calculated based on estimated projections of revenues and expenses related to the IPR&D programs and then reduced by a contributory charge on requisite assets employed. Contributory assets included debt-free working capital, net fixed assets and assembled workforce. Rates of return on the contributory assets were based on rates used for comparable market participants. Cash flows were assumed to extend through a seven-year market exclusivity period. The resultant cash flows were then discounted to present value using a weighted-average cost of equity capital for companies with profiles substantially similar to that of Celsion, which we believe represents the rate that market participants would use to value the assets. The projected cash flows were based on significant assumptions, including the indication in which we will pursue development of IPR&D programs, the time and resources needed to complete the development and regulatory approval of IPR&D programs, estimates of revenue and operating profit related to the program considering its stage of development, the life of the potential commercialized product, market penetration and competition, and risks associated with achieving commercialization, including delay or failure to obtain regulatory approvals to conduct clinical studies, failure of clinical studies, delay or failure to obtain required market clearances, and intellectual property litigation.

As of the closing of the acquisition, the IPR&D is considered indefinite lived intangible assets and will not be amortized. IPR&D will be reviewed for possible impairment on an annual basis by each year end or more frequently

if events are indicative of impairment.

***Pro Forma Information***

The following unaudited pro forma information presents our condensed results of operations as if the acquisition of EGEN had occurred on January 1, 2013:

|  | <b>Year ended</b>   |              |
|--|---------------------|--------------|
|  | <b>December 31,</b> |              |
|  | <b>2014</b>         | <b>2013</b>  |
| Revenues                                   | \$500,000           | \$627,628    |
| Loss from operations                       | (24,898,725)        | (18,247,339) |
| Net loss applicable to common shareholders | (25,662,572)        | (15,952,832) |

The above unaudited pro forma condensed consolidated financial information is presented for illustrative purposes only. It is not necessarily indicative of what the results of operations actually would have been had the acquisition been completed on the date indicated. In addition, it does not purport to project the future operating results of the combined entity.

The operations of EGEN are included with our operations from the period of closing of the acquisition on June 20, 2014 to the end of 2014. The Company's Statement of Operations included \$2,297,000 of operating expenses related to the operations of the acquired business for the period from the date of acquisition (June 20, 2014) through December 31, 2014.

## 6. PROPERTY AND EQUIPMENT:

|  | <b>December<br/>31,</b> | <b>December<br/>31,</b> |
|--|-------------------------|-------------------------|
|  | <b>2014</b>             | <b>2013</b>             |
| Machinery and equipment (5-7 year life)        | \$2,298,516             | \$1,674,206             |
| Furniture and fixtures (3-5 year life)         | 235,679                 | 153,051                 |
| Leasehold improvements (5-7 year life)         | 269,819                 | 269,819                 |
|  | 2,804,014               | 2,097,076               |
| Less accumulated depreciation and amortization | (1,633,517)             | (1,264,190)             |
| Total  | \$1,170,497             | \$832,886               |

## 7. OTHER ACCRUED LIABILITIES

Other accrued liabilities at December 31, 2014 and 2013 include the following:

|   | <b>December<br/>31,</b> | <b>December<br/>31,</b> |
|---|-------------------------|-------------------------|
|   | <b>2014</b>             | <b>2013</b>             |
| Amounts due to Contract Research Organizations and other contractual agreements | \$857,730               | \$1,711,934             |
| Accrued payroll and related benefits  | 961,440                 | 900,434                 |
| Accrued professional fees   | 502,300                 | 63,500                  |
| Accrued interest on notes payable   | 96,875                  | -                       |
| Other   | 38,020                  | 31,785                  |
| Total   | \$2,456,365             | \$2,707,653             |

## 8. NOTES PAYABLE

### *Hercules Credit Agreement*

In November 2013, the Company entered into a loan agreement with Hercules Technology Growth Capital, Inc. (Hercules) which permits up to \$20 million in capital to be distributed in multiple tranches (the Hercules Credit Agreement). The Company drew the first tranche of \$5 million upon closing of the Hercules Credit Agreement in November 2013 and used approximately \$4 million of the proceeds to repay the outstanding obligations under its loan agreement with Oxford Finance LLC and Horizon Technology Finance Corporation as discussed further below. On June 10, 2014, the Company closed the second \$5 million tranche under the Hercules Credit Agreement. The proceeds were used to fund the \$3.0 million upfront cash payment associated with Celsion's acquisition of EGEN, as well as the Company's transaction costs associated with the EGEN acquisition. Upon the closing of this second tranche, the Company has drawn down a total of \$10 million under the Hercules Credit Agreement.

The obligations under the Hercules Credit Agreement are in the form of secured indebtedness bearing interest at a calculated prime-based variable rate (11.25% per annum since inception). Payments under the loan agreement are interest only for the first twelve months after loan closing, followed by a 30-month amortization period of principal and interest through the scheduled maturity date.

In connection with the Hercules Credit Agreement, the Company incurred cash expenses of \$122,378 which were recorded as deferred financing fees. These deferred financing fees are being amortized as interest expense using the effective interest method over the life of the loan. Also in connection with the Hercules Credit Facility, the Company paid loan origination fees of \$230,000 which has been classified as debt discount. This amount is being amortized as interest expense using the effective interest method over the life of the loan.

As a fee in connection with the Hercules Credit Agreement, the Company issued Hercules a warrant for a total of 97,493 shares of the Company's common stock (the Hercules Warrant) at a per share exercise price of \$3.59, exercisable for cash or by net exercise from November 25, 2013. Upon the closing of the second tranche on June 10, 2014, this warrant became exercisable for an additional 97,493 shares of the Company's common stock. The Hercules Warrant will expire November 25, 2018. Hercules has certain rights to register the common stock underlying the Hercules Warrant pursuant to a Registration Rights Agreement with the Company dated November 25, 2013. The registration rights expire on the date when such stock may be sold under Rule 144 without restriction or upon the first year anniversary of the registration statement for such stock, whichever is earlier. The common stock issuable pursuant to the Hercules Warrant was filed pursuant to Rule 415 under the Securities Act of 1933 on the Prospectus for Registration Statement No. 333-193936 and was declared effective on September 30, 2014.

The Company valued the Hercules Warrant issued at the inception of the loan using the Black-Scholes option pricing model and recorded \$521,763 in 2013 as deferred financing fees. In calculating the value of the warrants, the Company assumed a volatility rate of 102%, risk free interest rate of 1.37%, an expected life of 5 years, a stock price of \$3.55 (closing price on date of the Hercules Warrant) and no expected forfeitures nor dividends. In the second quarter of 2014, the Company reassessed the classification of the warrants and concluded the original amount should be reclassified from deferred financing fees and equity. Therefore, other assets and additional paid in capital were both reduced by the \$521,763. The Company then valued the warrant for the initial 97,493 shares of the Company's common stock as of the inception of the loan and recorded \$260,928 as a debt discount to be amortized as interest expense using the effective interest method over the life of the loan and recognized a warrant liability for this amount. In connection with the closing of the second \$5 million tranche on June 9, 2014, the Company then valued the warrant for the additional 97,493 shares of the Company's common stock which became available and exercisable as of the date and recorded \$215,333 as a debt discount to be amortized as interest expense using the effective interest method over the life of the loan and recognized a warrant liability for this amount. In calculating the value of the warrant for the additional shares of the Company's common stock on June 10, 2014, the Company assumed a volatility rate of 104%, risk free interest rate of 1.69%, an expected remaining life of 4.5 years, a stock price of \$3.07 (closing price June 9, 2014) and no expected forfeitures nor dividends. The warrant liability will be fair valued at the end of each quarter and the resulting change in fair value will be recognized in net income.

Also in connection with each of the \$5.0 million tranches, the Company will be required to pay an end of term charge equal to 3.5% of each original loan amount at time of maturity. Therefore, these amounts totaling \$350,000 are being amortized as interest expense using the effective interest method over the life of the loan.

For the year ended December 31, 2014, the Company incurred \$892,188 in interest expense and amortized \$433,839 as interest expense for deferred fees, debt discount and end of term charges in connection with the Hercules Credit Agreement.

The Hercules Credit Agreement contains customary covenants, including covenants that limit or restrict the Company's ability to grant liens, incur indebtedness, make certain restricted payments, merge or consolidate and make dispositions of assets. Upon the occurrence of an event of default under the Hercules Credit Agreement, the lenders may cease making loans, terminate the Hercules Credit Agreement, declare all amounts outstanding to be immediately due and payable and foreclose on or liquidate the Company's assets that comprise the lenders' collateral. The Hercules Credit Agreement specifies a number of events of default (some of which are subject to applicable grace or cure periods), including, among other things, non-payment defaults, covenant defaults, a material adverse effect on the Company or its assets, cross-defaults to other material indebtedness, bankruptcy and insolvency defaults and material judgment defaults. The Company has maintained compliance with these covenants.

Following is a schedule of future principle payments before debt discount due on the Hercules Credit Agreement:

**For the  
year ending**

**December  
31,**

|                     |               |
|---------------------|---------------|
| 2015                | \$3,654,231   |
| 2016                | 4,091,595     |
| 2017                | 2,254,174     |
| 2018 and thereafter | –             |
| Total               | \$ 10,000,000 |

***Oxford & Horizon Credit Agreement***

In June 2012, the Company entered into a Loan and Security Agreement (the Oxford & Horizon Credit Agreement) with Oxford Finance LLC (Oxford) and Horizon Technology Finance Corporation (Horizon). The Oxford & Horizon Credit Agreement provided for a secured term loan of up to \$10 million, with 50% of any loans to be funded by Oxford and 50% to be funded by Horizon. The aggregate loan amount could have been advanced in two tranches of \$5 million each. The first tranche (the Term A Loan) was made available to the Company on June 27, 2012 and the second tranche was to be made available, if at all, during the period beginning on the date that the Company achieved positive data in its Phase III clinical trial of RFA and ThermoDox® (the HEAT Study) and ending on March 31, 2013. On January 31, 2013, the Company announced it did not meet the primary endpoint of the HEAT Study.

The Term A Loan was originally scheduled to mature on October 15, 2015. As a result of the Hercules Credit Agreement discussed above, the Company terminated the Oxford & Horizon Credit Agreement and repaid the outstanding principle, accrued interest and termination fees totaling approximately \$4.1 million.

The proceeds of the Oxford & Horizon Credit Agreement were used to fund the Company's working capital and general corporate purposes. The obligations under the Oxford & Horizon Credit Agreement were secured by substantially all assets of the Company other than its intellectual property and certain other agreed-upon exclusions.

As a fee in connection with the Oxford & Horizon Credit Agreement, the Company issued warrants to Horizon and Oxford (the Oxford & Horizon Warrants) to purchase the number of shares of the Company's common stock equal to 3% of each loan amount divided by the exercise price of \$13.14 per share, which was calculated as the average NASDAQ closing price of the Company's common stock for the three days prior to the funding of the loan amount. This resulted in 11,415 warrant shares issued in connection with the Term A Loan. The Oxford & Horizon Warrants issued in connection with the Term A Loan are exercisable for cash or by net exercise and will expire seven years after their issuance, which is June 27, 2019. The Company valued the Oxford & Horizon Warrants using the Black-Scholes option pricing model and recorded \$73,654 as deferred financing fees. In calculating the value of the warrants, the Company assumed a volatility rate of 74.3%, risk free interest rate of 1.10%, an expected life of 3.5 years, a stock price of \$12.60 which was the closing price on date of issuing the Oxford & Horizon Warrant) and no expected forfeitures nor dividends. In connection with the Oxford & Horizon Credit Agreement, the Company incurred cash expenses of \$217,715 which were recorded as deferred financing fees in 2012. These deferred financing fees were amortized as interest expense over the life of the loan. During the first three months of 2013, the Company paid \$146,874 in interest expense and amortized \$31,560 of deferred financing fees as interest expense. The Term A Loan bore interest at a fixed rate of 11.75%.

### *Capital Lease*

In November 2011, the Company financed \$144,448 of lab equipment through a capital lease. This lease obligation had thirty monthly payments of \$5,651 through February 2014. During 2014, the Company made principal and interest payments totaling \$11,303 to satisfy the remaining obligation under this capital lease.

## **9. INCOME TAXES**

A reconciliation of the Company's statutory tax rate to the effective rate for the years ended December 31, 2014, 2013 and 2012 is as follows:



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|   | <b>2014</b> | <b>2013</b> | <b>2012</b> |
|---|-------------|-------------|-------------|
| Federal statutory rate                  | 34.0 %      | 34.0 %      | 34.0 %      |
| State taxes, net of federal tax benefit | 5.5         | 5.9         | 5.9         |
| Recapture of alternative minimum tax    | —           | —           | —           |
| Valuation allowance                     | (39.5)      | (39.9)      | (39.9)      |
| Effective tax rate                      | — %         | — %         | — %         |

The components of the Company's deferred tax asset as of December 31, 2014 and 2013 are as follows:

| <i>In thousands</i>                                    | <b>December 31,</b> |             |
|--|---------------------|-------------|
|  | <b>2014</b>         | <b>2013</b> |
| Net operating loss carry forwards                      | \$61,536            | \$53,423    |
| Compensation expense related to employee stock options | 4,235               | 3,310       |
| Subtotal   | 65,771              | 56,733      |
| Valuation allowance                                    | (65,771)            | (56,733)    |
| Total deferred tax asset                               | \$-                 | \$-         |

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The evaluation of the realizability of such deferred tax assets in future periods is made based upon a variety of factors that affect the Company's ability to generate future taxable income, such as intent and ability to sell assets and historical and projected operating performance. At this time, the Company has established a valuation reserve for all of its deferred tax assets. Such tax assets are available to be recognized and benefit future periods.

Following is a schedule of net operating loss carry forwards and their year of expiration:

| <b>Approximate<br/>Amount of<br/>Unused<br/>Operating<br/>Loss Carry<br/>Forwards</b> | <b>Expiration<br/>During<br/>Year<br/>Ended</b> |
|---|---|
|---|---|

**(in \$000s)**

|            |      |
|------------|------|
| \$ 5,003   | 2022 |
| 2,292      | 2023 |
| 15,655     | 2024 |
| 8,174      | 2025 |
| 7,367      | 2026 |
| 10,716     | 2028 |
| 14,300     | 2029 |
| 18,045     | 2030 |
| 21,386     | 2031 |
| 20,558     | 2032 |
| 10,319     | 2033 |
| 21,896     | 2034 |
| \$ 155,711 |      |

During 2014, 2013 and 2012 the Company performed analyses to determine if there were changes in ownership, as defined by Section 382 of the Internal Revenue Code that would limit its ability to utilize certain net operating loss and tax credit carry forwards. The Company determined that it experienced an ownership change, as defined by Section 382, in connection with certain common stock offerings on July 25, 2011, February 5, 2013 and on June 3, 2013. As a result, the utilization of the Company's federal tax net operating loss carry forwards generated prior to the ownership changes are limited. As of December 31, 2013, the Company has net operating loss carry forwards for U.S. federal and state tax purposes of approximately \$156 million, before excluding net operating losses that have been limited as a result of Section 382 limitations. The annual limitation due to Section 382 for net operating loss carry forward utilization is approximately \$4.9 million per year for approximately \$90 million in net operating loss carry forwards existing at the ownership change occurring on July 25, 2011, approximately \$1.4 million per year for approximately \$34 million of additional net operating losses occurring from July 2011 to the ownership change that occurred on February 5, 2013 and approximately \$1.5 million per year for approximately \$34 million of additional net operating losses occurring from February 5, 2013 to the ownership change that occurred on June 3, 2013. The

utilization of these net operating loss carry forwards may be further limited if the Company experiences future ownership changes as defined in Section 382 of the Internal Revenue Code.

## **10. STOCKHOLDERS' EQUITY**

In August 2012, the Company filed with the Securities and Exchange Commission a \$75 million shelf registration statement on Form S-3 that allowed the Company to issue any combination of common stock, preferred stock or warrants to purchase common stock or preferred stock. This shelf registration was declared effective on September 14, 2012.

During 2013, we received approximately \$0.4 million of gross proceeds from the exercise of warrants and stock options to purchase approximately 30,893 shares of the Company's common stock. During 2012, we received approximately \$10.8 million of gross proceeds from the exercise of warrants and stock options to purchase approximately 904,144 shares of the Company's common stock. We did not have any warrant nor option exercises in 2014.

January 2014 Common Stock Offering

On January 15, 2014, the Company entered into a Securities Purchase Agreement with certain institutional investors, pursuant to which the Company sold, in a registered offering, an aggregate of 3,603,604 shares of its common stock, par value \$0.01 per share, and warrants to purchase up to 1,801,802 shares of Common Stock, for an aggregate purchase price of approximately \$15 million (the January 2014 Common Stock Offering). The shares of common stock and warrants were sold in units, with each unit consisting of one share of common stock, a Series A warrant to purchase 0.25 share of common stock and a Series B warrant to purchase 0.25 share of common stock. Each unit was sold at a purchase price of \$4.1625. Each Series A warrant will be exercisable at any time on or after its issuance date and until the five-year anniversary of the issuance date. Each Series B warrant will be exercisable at any time on or after its issuance date and until the one-year anniversary of the issuance date. Each warrant has an exercise price of \$4.10 per share. Under the purchase agreement, the Company was prohibited, for a period of nine months after the closing, from effecting or entering into an agreement to issue common stock or any other securities that are at any time convertible into, or exercisable or exchangeable for, or otherwise entitle the holder thereof to receive, common stock to the extent such issuance or sale involves certain variable conversion, exercise or exchange prices or such agreement provides for sale of securities at a price to be determined in the future.

Shares issued in acquisition of EGEN, Inc.

As more fully discussed in Note 5, the Company issued 2,712,188 shares of its common stock to the shareholders of EGEN, Inc. to acquire certain assets of EGEN. The shares of Celsion's common stock were issued in a private transaction exempt from registration under the Securities Act of 1933, as amended (the Securities Act), pursuant to Section 4(2) thereof. In addition, 670,070 shares of Celsion common stock are issuable to EGEN shareholders on or after August 2, 2016 pending satisfactory resolution of any post-closing adjustments of expenses and EGEN's indemnification obligations under the EGEN Purchase Agreement (Holdback Shares). The common stock issued and issuable to EGEN pursuant to the Asset Purchase Agreement were filed pursuant to Rule 415 under the Securities Act of 1933 on the Prospectus for Registration Statement No. 333-198786 and was declared effective on September 30, 2014.

Controlled Equity Offering

On February 1, 2013, the Company entered into a Controlled Equity Offering<sup>SM</sup> Sales Agreement (the "ATM Agreement") with Cantor Fitzgerald & Co., as sales agent ("Cantor"), pursuant to which Celsion may offer and sell, from time to time, through Cantor, shares of our common stock having an aggregate offering price of up to \$25.0 million (the "ATM Shares") pursuant to the Company's previously filed and effective Registration Statement on Form S-3. Under the ATM Agreement, Cantor may sell ATM Shares by any method deemed to be an "at-the-market" offering as defined in Rule 415 promulgated under the Securities Act of 1933, as amended, including sales made directly on The NASDAQ Capital Market, on any other existing trading market for the our common stock or to or through a market

maker. From February 1, 2013 through February 25, 2013, the Company sold and issued an aggregate of 1,195,927 shares of common stock under the ATM Agreement, receiving approximately \$6.8 million in net proceeds.

The Company is not obligated to sell any ATM Shares under the ATM Agreement. Subject to the terms and conditions of the ATM Agreement, Cantor will use commercially reasonable efforts, consistent with its normal trading and sales practices and applicable state and federal law, rules and regulations and the rules of The NASDAQ Capital Market, to sell ATM Shares from time to time based upon the Company's instructions, including any price, time or size limits or other customary parameters or conditions the Company may impose. In addition, pursuant to the terms and conditions of the ATM Agreement and subject to the instructions of the Company, Cantor may sell ATM Shares by any other method permitted by law, including in privately negotiated transactions.

The ATM Agreement will terminate upon the earlier of (i) the sale of ATM Shares under the ATM Agreement having an aggregate offering price of \$25 million and (ii) the termination of the ATM Agreement by Cantor or the Company. The ATM Agreement may be terminated by Cantor or the Company at any time upon 10 days' notice to the other party, or by Cantor at any time in certain circumstances, including the occurrence of a material adverse change in the Company. The Company pays Cantor a commission of 3.0% of the aggregate gross proceeds from each sale of ATM Shares and has agreed to provide Cantor with customary indemnification and contribution rights. The Company also reimbursed Cantor for legal fees and disbursements of \$50,000 in connection with entering into the ATM Agreement. In connection with the February 2013 Preferred Stock Offering discussed below, the Company agreed to not sell any ATM Shares for a period of one year from February 26, 2013. In connection with the Common Stock Offering below, the Company agreed to not sell any ATM Shares until June 3, 2014. In connection with the January 2014 securities offering discussed in Note 15 below, the Company agreed to not sell any ATM Shares until July 22, 2014. The Company currently has approximately \$18 million remaining under the ATM Agreement.

February 2013 Preferred Stock Offering

On February 22, 2013, the Company entered into a Securities Purchase Agreement with certain institutional investors, pursuant to which the Company sold, in a registered offering, an aggregate of 15,000.00422 shares of its Series A 0% convertible preferred stock and the warrants to purchase shares of its common stock, for an aggregate purchase price of approximately \$15.0 million (the February 2013 Preferred Stock Offering). The closing of the February 2013 Preferred Stock Offering occurred on February 26, 2013, in which the Company received approximately \$15.0 million in gross proceeds. Subject to certain ownership limitations, shares of Series A 0% convertible preferred stock are convertible, at the option of the holder thereof, into an aggregate of up to 2,682,764 shares of common stock, and the warrants are exercisable to purchase an aggregate of up to 1,341,382 shares of common stock. Each warrant has an exercise price of \$5.31 per share, equal to the closing bid price of common stock on February 21, 2013. The warrants are immediately exercisable and expire five years after the date of issuance.

Upon issuance, we estimated the fair value of the warrants issued in the February 2013 Preferred Stock Offering to be approximately \$5.4 million using the Black-Scholes pricing model. Also, upon issuance, we recognized approximately \$4.6 million as a one-time, non-cash deemed dividend related to the beneficial conversion feature connected to the preferred stock in the Preferred Stock Offering.

Assumptions used in the valuation of the warrants issued in the February 2013 Preferred Stock Offering were as follows:

|                          |        |   |
|--------------------------|--------|---|
| Risk-free interest rate  | 0.78   | % |
| Expected volatility      | 102.23 | % |
| Expected life (in years) | 5.0    |   |
| Expected forfeiture rate | 0.0    | % |
| Expected dividend yield  | 0.0    | % |

As of September 30, 2013, all 2,682,764 shares of common stock in the aggregate were issued upon conversion of all 15,000.00422 shares of the Series A 0% convertible preferred stock.

May 2013 Common Stock Offering

On May 30, 2013, the Company entered into a Securities Purchase Agreement with certain institutional investors, pursuant to which the Company sold, in a registered offering, an aggregate of 1,392,109 shares of its common stock for an aggregate purchase price of approximately \$9.8 million (the “Common Stock Offering”). The closing of the

Common Stock Offering occurred on June 3, 2013. The issuance of common stock in the Common Stock Offering was made pursuant to the Company's previously filed and effective Registration Statement on Form S-3 (File No. 333-183286), the base prospectus dated September 14, 2012 filed as part of such Registration Statement, and the prospectus supplement filed with the Securities and Exchange Commission on June 3, 2013. The Securities Purchase Agreement also contained representations, warranties, indemnification and other provisions customary for transactions of this nature.

Prior to the closing of the Common Stock Offering, there were an insufficient number of authorized shares to complete the transaction. The investors in the Common Stock Offering also held warrants to purchase common stock of the Company which were issued in connection with previous offerings. Concurrent with the closing of the Common Stock Offering, the institutional investors agreed to waive their rights to exercise these warrants to purchase 1,398,816 shares of common stock of the Company (the "Waived Warrants") until the Company has obtained stockholders' approval to increase the number of its authorized shares of common stock in conjunction with the proposed reverse stock split of its outstanding shares of common stock. At the Company's 2013 Annual Meeting of Stockholders held on July 19, 2013, the Company's stockholders voted to approve the proposal to grant discretionary authority to the Board of Directors to amend the Certificate of Incorporation of the Company, as amended, to effect, at any time on or prior to the date of the 2014 Annual Meeting of Stockholders, a reverse stock split at an exchange ratio within the specified range and to set the number of authorized shares effective immediately after the reverse stock split at 75 million shares. On October 28, 2013, the Company announced that it affected a 1-for-4.5 reverse stock split of its common stock. See Reverse Stock Split below for further information.

Prior to the closing of the Common Stock Offering, the warrants described above were originally recorded as equity at the fair value on the date of issuance. In accordance with ASC 815-40, *Derivative Instruments and Hedging - Contracts in Entity's Own Equity*, the Waived Warrants were required to be liability classified immediately after the closing of the Common Stock Offering on June 3, 2013 because there were an insufficient number of common shares authorized to permit the full exercise of the warrants. Therefore on June 3, 2013, the Company reclassified the fair value of the Waived Warrants totaling approximately \$9.1 million from equity to a liability. The Waived Warrants were required to be recorded at fair value at each balance sheet date with changes in fair value recorded in earnings until such time as there were a sufficient number of common shares authorized to permit the full exercise of the warrants (see Note 11). In connection with the Reverse Stock Split as more fully described below, these warrants were valued as of October 28, 2013, and the Company reclassified the fair value of the Waived Warrants totaling approximately \$5.3 million from a liability to equity.

Following is a summary list of the Waived Warrants:

| Shares of<br>common<br>stock<br><br>associated<br>with the<br>Waived<br>Warrants | Expiration Date of<br>Waived Warrants | Strike<br>Price | Per<br>Share                              | Per<br>Share                                  |
|--|---------------------------------------|-----------------|---|---|
|  |                                       |                 | Fair<br>Value<br>on<br>June<br>3,<br>2013 | Fair<br>Value<br>on<br>October<br>28,<br>2013 |
| 1,323,496  | 2/26/2018                             | \$5.31          | \$ 6.60                                   | \$ 3.86                                       |
| 31,243   | 7/25/2016                             | \$18.99         | \$ 4.41                                   | \$ 2.10                                       |
| 12,628   | 7/6/2016                              | \$14.09         | \$ 4.81                                   | \$ 2.40                                       |
| 31,448   | 11/25/2017                            | \$12.47         | \$ 5.56                                   | \$ 3.16                                       |

Assumptions used in the valuation of the Waived Warrants associated with the June 3, 2013 Common Stock Offering were as follows:

|                          | June 3, 2013 |   | October 28, 2013 |                   |
|--------------------------|--------------|---|------------------|-------------------|
| Risk-free interest rate  | 0.50         | - | 1.03             | % 0.59 - 1.31 %   |
| Expected volatility      | 102.9        | - | 110.9            | % 105.1 - 111.8 % |
| Expected life (in years) | 3.1          | - | 4.7              | % 2.7 - 4.3 %     |
| Expected forfeiture rate | 0.0          |   | %                | 0.0 %             |
| Expected dividend yield  | 0.00         |   | %                | 0.00 %            |



Reverse Stock Split

On October 28, 2013, the Company affected a 1-for-4.5 reverse stock split of its common stock which was made effective for trading purposes as of the commencement of trading on October 29, 2013. As of that date, each 9 shares of issued and outstanding common stock and equivalents were consolidated into 2 shares of common stock. In addition, at the market open on October 29, 2013, the Company's common stock started trading under a new CUSIP number 15117N404 although the Company's ticker symbol, CLSN, remained unchanged.

The reverse stock split was previously approved by the Company's stockholders at the 2013 Annual Meeting held on July 19, 2013, and the Company subsequently filed a Certificate of Amendment to its Certificate of Incorporation to effect the stock consolidation. The primary reasons for the reverse stock split and the amendment are:

To increase the market price of the Company's common stock making it more attractive to a broader range of institutional and other investors,

To provide the Company with additional capital resources and flexibility sufficient to execute its business plans including the establishment of strategic relationships with other companies and to ensure its ability to raise additional capital as necessary, and

As previously announced, to facilitate expanding the Company's business or product lines through potential acquisitions.

Immediately prior to the reverse stock split, the Company had 61,226,873 shares of common stock outstanding which consolidated into 13,604,975 shares of the Company's common stock. No fractional shares were issued in connection with the reverse stock split. Holders of fractional shares have been paid out in cash for the fractional portion with the Company's overall exposure for such payouts consisting of a nominal amount. The number of outstanding options and warrants were adjusted accordingly, with outstanding options being reduced from approximately 3.9 million to approximately 0.9 million and outstanding warrants being reduced from approximately 13.8 million to approximately 3.1 million.

## 11. STOCK BASED COMPENSATION

### Employee Stock Options

The Company has long-term compensation plans that permit the granting of incentive awards in the form of stock options. Generally, the terms of these plans require that the exercise price of the options may not be less than the fair market value of Celsion's Common Stock on the date the options are granted. Options generally vest over various time frames or upon milestone accomplishments. Some vest immediately. Others vest over a period between one and five years. The options generally expire ten years from the date of the grant.

#### *2001 Stock Option Plan*

In 2001, the Board of Directors adopted a stock plan for directors, officers and employees (the "2001 Plan") under which 148,148 shares were reserved for future issuance. The purpose of the 2001 Plan was to promote long-term growth and profitability of Celsion by providing key people with incentives to improve stockholder value and contribute to the growth and financial success of Celsion, and to enable the company to attract, retain and reward the best available persons for positions of substantial responsibility.

#### *2004 Stock Incentive Plan*

In 2004, the Board of Directors adopted a stock plan for directors, officers and employees (the "2004 Plan") under which 148,148 shares were reserved for future issuance. The plan provides for stock instruments to be issued enabling the holder thereof to acquire Common stock of the Company at prices determined by the Company's Board of Directors. The purpose of the 2004 Plan was to promote the long-term growth and financial success of the Company and enable the Company to attract, retain and reward the best available persons for positions of substantial responsibility. The 2004 Plan permitted the granting of awards in the form of incentive stock options, restricted stock, restricted stock units, stock appreciation rights, phantom stock, and performance awards, or in any combination of the foregoing. The 2004 Plan terminated in 2014, 10 years from the date of the Plan's adoption by the Company's stockholders.

Any options forfeited or terminated under the 2001 Plan and 2004 Plan are rolled into the 2007 Stock Incentive Plan for future issuance.

*2007 Stock Incentive Plan*

In 2007, the Company adopted the Celsion Corporation 2007 Stock Incentive Plan (the 2007 Plan) under which 222,222 shares were authorized for issuance. The purpose of the 2007 Plan is to promote the long-term growth and profitability of the Company by providing incentives to improve stockholder value and enable the Company to attract, retain and reward the best available persons for positions of substantial responsibility. The 2007 Plan permits the granting of equity awards in the form of incentive stock options, nonqualified stock options, restricted stock, restricted stock units, stock appreciation rights, phantom stock, and performance awards, or in any combination of the foregoing. At the Annual Meetings of Stockholders of Celsion held on June 25, 2010, June 7, 2012 and June 20, 2014, the stockholders approved amendments to the Plan. The only material difference between the original Plan and the amended Plan was the number of shares of common stock available for issuance under the amended Plan which was increased by 222,222 to a total of 444,444 shares in 2010, by 500,000 to a total of 944,444 shares in 2012 and by 2,500,000 to a total of 3,444,444 shares in 2014.

The Company has issued stock awards to employees, directors and vendors out of the stock option plans. Options and are generally granted at market value on the date of the grant.

Incentive stock options may be granted to purchase shares of Common Stock at a price not less than 100% of the fair market value of the underlying shares on the date of grant, provided that the exercise price of any incentive option granted to an eligible employee owning more than 10% of the outstanding stock must be at least 110% of the such fair market value on the date of grant. Only officers and key employees may receive incentive stock options; all other qualified participants may receive non-qualified stock options.

Option awards vest upon terms determined by the Board of Directors. Restricted stock awards, performance stock awards and stock options are subject to accelerated vesting in the event of a change of control. The Company issues new shares to satisfy its obligations from the exercise of options.

During the year ended December 31, 2014, 2013 and 2012, 1,040,950, 187,888 and 148,553 equity awards, respectively, were granted under the 2007 Plan. During 2014, 2013 and 2012, a total of 131,850, 41,379 and 66,019 equity awards, respectively, were canceled or expired under the plans collectively. During 2014, 2013 and 2012, 21,341, 12,873 and 56,710 shares of the Company's common stock were issued collectively as a result of either options being exercised or restricted stock awards vesting.

In 2007 an option to purchase 95,555 shares of the Company's common stock was issued to the Company's Chief Executive Officer. This option vested in equal installments over four years and was separately registered with the Securities and Exchange Commission (the "SEC") and was not issued under any of the Employee Stock Incentive Plans.

Collectively, for all the stock option plans as of December 31, 2014, there were a total of 3,674,270 shares reserved, which were comprised of 1,751,773 equity awards granted and 1,922,497 equity awards available for future issuance.

Total compensation cost charged related to employee stock options and non-vested restricted stock awards amounted to \$2.6 million, \$1.2 million and \$1.1 million for the years ended December 31, 2014, 2013 and 2012, respectively. No compensation cost related to share-based payments arrangements was capitalized as part of the cost of any asset at these same periods. As of December 31, 2014, there was \$1.3 million of total unrecognized compensation cost related to non-vested share-based compensation arrangements. That cost is expected to be recognized over a weighted-average period of 1.6 years. The weighted average grant-date fair values of the equity awards granted during the years ended December 31, 2014, 2013 and 2012 were \$3.18, \$3.40 and \$7.28, respectively.

#### Equity Awards Issued to Consultants for Services

The Company periodically issues equity awards to consultants in exchange for services provided. The fair value of options granted is measured in accordance with ASC 718, *Compensation – Stock Compensation*, using the Black-Scholes option pricing model and recorded as an expense in the period in which such services are received. Generally, the terms of these plans require that the exercise price of such awards may not be less than the fair market value of the Company's Common Stock on the date the equity awards are granted. Consultant equity awards generally vest over various time frames or upon milestone accomplishments. Some vest immediately upon issuance. The equity awards generally expire within 10 years from the date of grant. There were 5,555 and 5,387 awards issued to consultants during the years ended December 31, 2013 and 2012, respectively. No awards were granted to consultants

during the year ended December 31, 2014.

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A summary of stock option awards as of December 31, 2014 and changes during the three years ended December 31, 2014, is presented below:

| <b>Stock Options</b>             | <b>Number<br/>Outstanding</b> | <b>Weighted<br/>Average<br/>Exercise<br/>Price</b> | <b>Weighted<br/>Average<br/>Remaining<br/>Contractual<br/>Term<br/>(in years)</b> | <b>Aggregate<br/>Intrinsic<br/>Value</b> |
|----------------------------------|-------------------------------|--|---|--|
|                                  |                               |  |   |  |
| Outstanding at January 1, 2012   | 691,809                       | \$ 16.88   |   |  |
| Granted                          | 145,611                       | 10.08  |   |  |
| Exercised                        | (47,575 )                     | 14.67  |   |  |
| Canceled or expired              | (64,316 )                     | 29.43  |   |  |
| Outstanding at December 31, 2012 | 725,529                       | \$ 14.63   |   |  |
| Granted                          | 187,777                       | 4.39   |   |  |
| Exercised                        | (12,429 )                     | 14.67  |   |  |
| Canceled or expired              | (38,972 )                     | 16.79  |   |  |
| Outstanding at December 31, 2013 | 861,905                       | \$ 12.29   |   |  |
| Granted                          | 1,014,700                     | 3.53   |   |  |
| Exercised                        | —                             | —  |   |  |
| Canceled or expired              | (131,850 )                    | 19.05  |   |  |
| Outstanding at December 31, 2014 | 1,744,755                     | 7.20   | 7.5   | \$ -                                     |
| Exercisable at December 31, 2014 | 990,936                       | \$ 9.71  | 6.1   | \$ -                                     |

A summary of the status of the Company's non-vested restricted stock awards as of December 31, 2014 and changes during the three years ended December 31, 2014, is presented below:

| <b>Restricted Stock</b>                                | <b>Number<br/>Outstanding</b> | <b>Weighted<br/>Average<br/>Exercise<br/>Price</b> |
|--|-------------------------------|--|
|  |                               |  |
| Non-vested stock awards outstanding at January 1, 2012 | 12,193                        | \$ 14.22   |
| Granted  | 2,942                         | 16.47  |
| Vested and issued                                      | (9,135 )                      | 15.17  |

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|  |         |   |          |
|--|---------|---|----------|
| Forfeited  | (1,703  | ) | 12.56    |
| Non-vested stock awards outstanding at December 31, 2012 | 4,297   |   | \$ 14.63 |
| Granted  | 111     |   | 5.36     |
| Vested and issued  | (444    | ) | 8.40     |
| Forfeited  | (1,855  | ) | 15.69    |
| Non-vested stock awards outstanding at December 31, 2013 | 2,109   |   | \$ 14.13 |
| Granted  | 26,250  |   | 3.46     |
| Vested and issued  | (21,341 | ) | 4.77     |
| Forfeited  | -       |   | -        |
| Non-vested stock awards outstanding at December 31, 2014 | 7,018   |   | \$ 3.32  |

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A summary of stock options outstanding at December 31, 2014 by price range is as follows:

| Range of<br>Exercise<br>Prices | Options Outstanding |  |  | Options Exercisable |  |  |
|--------------------------------|---------------------|--|--|---------------------|--|--|
|                                | Number              | Average<br>Remaining<br>Contractual<br>Term<br>(in<br>years) | Weighted<br>Average<br>Exercise<br>Price | Number              | Average<br>Remaining<br>Contractual<br>Term<br>(in<br>years) | Weighted<br>Average<br>Exercise<br>Price |
| \$ 2.00 - \$3.99               | 956,700             | 9.4  | \$ 3.53                                  | 293,266             | 9.4  | \$ 3.54                                  |
| \$ 4.00 - \$8.99               | 185,778             | 7.6  | \$ 4.46                                  | 131,044             | 7.2  | \$ 4.41                                  |
| \$ 9.00 - \$13.49              | 434,445             | 4.9  | \$ 11.12                                 | 401,461             | 4.7  | \$ 11.25                                 |
| \$ 13.50 - \$31.49             | 165,870             | 3.4  | \$ 20.81                                 | 163,203             | 3.3  | \$ 20.80                                 |
| Above \$31.50                  | 1,962               | 0.5  | \$ 38.07                                 | 1,962               | 0.5  | \$ 38.09                                 |
|                                | 1,744,755           |  |  | 990,936             |  |  |

The fair values of stock options granted were estimated at the date of grant using the Black-Scholes option pricing model. The Black-Scholes model was originally developed for use in estimating the fair value of traded options, which have different characteristics from Celsion's nonqualified stock options. The model is also sensitive to changes in assumptions, which can materially affect the fair value estimate. The Company used the following assumptions for determining the fair value of options granted under the Black-Scholes option pricing model:

|                          | Year Ended December 31, |         |         |        |         |        |
|--------------------------|-------------------------|---------|---------|--------|---------|--------|
|                          | 2014                    |         | 2013    |        | 2012    |        |
| Risk-free interest rate  | 2.31 to                 | 2.75 %  | 0.85 to | 1.19 % | 1.09 to | 2.97 % |
| Expected volatility      | 94.3 -                  | 100.7 % | 83.4 -  | 97.9 % | 80.8 -  | 82.3 % |
| Expected life (in years) | 10                      |         | 5.25 to |        |         |        |