Celsion CORP
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January 21, 2014

Filed Pursuant to Rule 424(b)(5)
Registration Statement No. 333-183286

PROSPECTUS SUPPLEMENT

(To Prospectus dated September 14, 2012)

3,603,604 Shares of Common Stock

Warrants to purchase up to 1,801,802 Shares of Common Stock

We are offering 3,603,604 shares of our common stock, par value $0.01 per share, and warrants to purchase up to 1,801,802 shares of our common stock to certain institutional investors. The shares of common stock and warrants will be 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 at an exercise price of $4.10 per share and a Series B warrant to purchase 0.25 share of common stock at an exercise price of $4.10 per share. Each unit will be 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. This prospectus supplement also relates to the offering of the shares of our common stock issuable upon exercise of the warrants.

Our common stock is listed on The NASDAQ Capital Market under the symbol “CLSN.” On January 17, 2014, the last reported sale price of our common stock on The NASDAQ Capital Market was $3.96 per share. There is no established public trading market for the warrants and we do not expect a market to develop. We do not intend to apply for a listing of the warrants on any national securities exchange.

Investing in our securities involves a high degree of risk. Before making an investment decision, please read “Risk Factors” beginning on page S-7 of this prospectus supplement, page 8 of the accompanying prospectus and in the documents incorporated by reference into this prospectus supplement and the accompanying prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

We have retained H.C. Wainwright & Co., LLC to act as our exclusive placement agent in connection with the shares of common stock and warrants offered by this prospectus supplement. We have agreed to pay the placement agent the placement agent fees set forth in the table below, which assumes that we sell all of the securities we are offering. See "Plan of Distribution" beginning on page S-24 of this prospectus supplement for more information regarding this arrangement.

	Per Unit	**Total**
Public offering price of units	$4.1625	$15,000,001.65
Placement agent fees	$0.3121875	$1,125,000.12
Proceeds, before expenses, to us	$3.8503125	$13,875,001.53

Delivery of the shares of common stock and the warrants to purchase common stock will take place on or about January 21, 2014, subject to the satisfaction of certain conditions.

H.C. Wainwright & Co., LLC

This prospectus supplement is dated January 15, 2014

The date of this prospectus supplement is January 15, 2014.

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ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus are part of a "shelf" registration statement on Form S-3 (File No. 333-183286) that we filed with the Securities and Exchange Commission on August 20, 2012 and that was declared effective on September 14, 2012.

This document is in two parts. The first part is this prospectus supplement, which describes the terms of this offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying prospectus. The second part is the accompanying prospectus, which gives more general information about the shares of our common stock and other securities we may offer from time to time under our shelf registration statement, some of which does not apply to the securities offered by this prospectus supplement. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying prospectus or any document incorporated by reference herein or therein, on the other hand, you should rely on the information in this prospectus supplement.

You should read this prospectus supplement, the accompanying prospectus, the documents incorporated by reference in this prospectus supplement and the accompanying prospectus and any free writing prospectus that we have authorized for use in connection with this offering before making an investment decision. You should also read and consider the information in the documents referred to in the sections of this prospectus supplement entitled "Where You Can Find More Information" and "Incorporation of Certain Documents by Reference."

You should rely only on the information contained or incorporated by reference in this prospectus supplement, the accompanying prospectus and any free writing prospectus that we have authorized for use in connection with this offering. We have not authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it.

We are not making an offer to sell the securities covered by this prospectus supplement in any jurisdiction where the offer or sale is not permitted.

The information appearing in this prospectus supplement, the accompanying prospectus, the documents incorporated by reference in this prospectus supplement and the accompanying prospectus and any free writing prospectus that we have authorized for use in connection with this offering is accurate only as of its respective date, regardless of the time of delivery of the respective document or of any sale of securities covered by this prospectus supplement. You should not assume that the information contained in or incorporated by reference in this prospectus supplement or the accompanying prospectus, or in any free writing prospectus that we have authorized for use in connection with this

offering, is accurate as of any date other than the respective dates thereof.

In this prospectus supplement, the terms “Celsion Corporation,” “the Company,” “we,” “us,” “our” and similar terms refer to Celsion Corporation, a Delaware corporation, unless the context otherwise requires.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights certain information about us, this offering and selected information contained elsewhere in or incorporated by reference into this prospectus supplement and the accompanying prospectus. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in the securities covered by this prospectus supplement. For a more complete understanding of Celsion and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus supplement and the accompanying prospectus, including the information incorporated by reference in this prospectus supplement and the accompanying prospectus and the information included in any free writing prospectus that we have authorized for use in connection with this offering, including the information set forth in the section titled "Risk Factors" in this prospectus supplement beginning on page S-7.

Our Company

Celsion is an oncology drug development company focused on the development of treatments for those suffering with difficult to treat forms of cancer. We are working to develop and commercialize more efficient, effective, targeted chemotherapeutic oncology drugs based on our proprietary heat-activated liposomal technology. The promise of this drug technology is to maximize efficacy while minimizing side-effects common to cancer treatments.

Overview

Our lead product, ThermoDox®, is being evaluated in a Phase III clinical trial for primary liver cancer (the HEAT study) and a Phase II clinical trial for recurrent chest wall breast cancer. 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.

On January 31, 2013, we announced that ThermoDox® in combination with radio frequency ablation (RFA) did not meet the primary endpoint of the HEAT study in patients with hepatocellular carcinoma (HCC), also known as primary liver cancer. Specifically, we determined, after conferring with the HEAT study independent Data Monitoring Committee, 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. In the trial, ThermoDox® was well-tolerated with no unexpected serious adverse events. 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 assessing 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 until such time as we finalize our plans for the continuation of its development program with ThermoDox® in HCC.

In October 2013, we announced that the latest overall survival data from our post-hoc analysis of results from the HEAT study supports continued clinical development through a prospective pivotal Phase III study. We submitted our proposed pivotal Phase III clinical protocol for review by the U.S. Food and Drug Administration (FDA) in the fourth quarter of 2013 and anticipate initiating a multicenter global trial in the first half of 2014. The data from the HEAT study post-hoc analysis suggest that ThermoDox® may markedly improve overall survival, when compared to the control group, in patients if their tumors undergo optimal RFA treatment. This post-hoc analysis followed the announcement on January 31, 2013 that ThermoDox® in combination with RFA did not meet the HEAT study's primary endpoint, progression-free survival (PFS). We continue to follow patients in the study to the secondary endpoint, overall survival. Data from three overall survival sweeps have been conducted since the top line PFS data was announced in January 2013, with each showing progressive improvement in statistical significance. Emerging data from the HEAT study post-hoc analysis have been presented at three scientific and medical conferences in 2013 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

International Liver Cancer Association Annual Conference in September 2013.

These post-hoc findings apply to all single HCC lesions from both size cohorts of the HEAT study (3-5 cm and 5-7 cm) and represent a subgroup of 285 patients, representing 41% of the patients in the HEAT study. Updated overall survival data from this subgroup of patients are summarized below:

In the patient subgroup treated in the ThermoDox® arm whose RFA procedure lasted longer than 45 minutes (285 patients or 63% of single lesion patients), clinical results indicate an improvement in overall survival with a Hazard Ratio of 0.63 (95% CI 0.393 – 1.011) and a P-value = 0.056. The median in this subgroup has not been reached.

In contrast, the patient subgroup treated with ThermoDox® whose RFA procedure lasted less than 45 minutes in duration (167 patients or 37% of single lesion patients) demonstrated a Hazard Ratio of 1.14 (95% CI 0.737 – 1.776) and a P-value = 0.547. The median in this subgroup has not been reached.

The Hazard Ratios reported above, while more than sufficient to support additional clinical development, should be viewed with caution since they are not statistically significant and the HEAT study has not reached its median for overall survival analysis. We continue to follow all patients in the HEAT study to the secondary endpoint and will update the subgroup analysis based on RFA heating duration.

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

On December 5, 2008, we entered into a development, product supply and commercialization agreement with Yakult Honsha Co. (Yakult), under which we granted Yakult an exclusive right to commercialize and market ThermoDox® 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 agreement, we will receive double-digit escalating royalties on the sale of ThermoDox® in Japan when and if any such sales occur, and we also will be the exclusive supplier of ThermoDox® to Yakult. Concurrently with our convertible preferred stock equity financing in January 2011, the agreement was amended to provide for up to $4.0 million in an accelerated partial payment to us, including $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 forty percent (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® 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® and we will repay Hisun for the aggregate amount of these 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®. As of September 30, 2013, we have incurred approximately $371,000 in costs to be

reimbursed to Hisun. 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 $5.0 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 the China territory for approval of ThermoDox®. Following our announcement on January 31, 2013 that the HEAT study failed to meet its primary endpoint, the Company 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 and are evaluating the next steps in relation to ThermoDox®, which include the sub-group analysis of patients in the HEAT study for the HCC clinical indication 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 will focus on next generation liposomal formulation development with the goal of creating safer, more efficacious versions of marketed cancer chemotherapeutics.

Among the key provisions of the memorandum of understanding are:

- Hisun will provide the Company with non-dilutive financing and the investment necessary to complete the technology transfer of its proprietary manufacturing process and the production of registration batches for the China territory;

- Hisun will collaborate with the Company around the clinical and regulatory approval activities for ThermoDox® as well as other liposomal formations with the China Food and Drug Administration; and

- Hisun will be granted a right of first offer for a commercial license to ThermoDox® for the sale and distribution of ThermoDox® in the China territory.

In April 2013, we engaged Cantor Fitzgerald & Co. to conduct a comprehensive review of merger and acquisition opportunities with the goal of identifying novel products with high potential, or companies, for us to acquire. Strategic alternatives we may pursue could include, but are not limited to, partnering or other collaboration agreements, acquisitions of another company's business or assets, mergers or other strategic transactions. There can be no assurance that the exploration of strategic alternatives will result in any agreements or transactions or that any agreements or transactions, if completed, will be successful or on attractive terms.

On November 25, 2013, we entered into a loan and security agreement with Hercules Technology Growth Capital, Inc. (Hercules), pursuant to which we may borrow a secured term loan of up to $20.0 million from Hercules. We received the first advance of $5.0 million under the secured term loan on November 25, 2013 and may request, subject to Hercules' consent in its sole discretion, an additional $15.0 million in up to three advances with each advance in a minimum amount of $5.0 million, unless otherwise agreed upon by Hercules and us, before June 30, 2014 unless extended upon Hercules' consent. We have used approximately $4.0 million of the first advance of $5.0 million to repay the outstanding indebtedness under our previous loan agreement with Oxford Finance LLC and Horizon Technology Finance Corporation. We anticipate to use any additional funding that may be made available under the secured term loan for working capital needs or in support of our previously announced strategic acquisition initiative, which is designed to identify new technologies and clinical stage products for our development pipeline.

The secured term loan bears an interest at a prime-based variable rate. We will pay interest each month for the first twelve months after the closing and repay the principal and interest each month during a 30-month amortization period thereafter. We granted Hercules a security interest in certain of our assets. In connection with the loan and security agreement, we entered into a warrant agreement to purchase shares of common stock with Hercules on November 25, 2013, pursuant to which Hercules has the right to purchase up to 194,986 shares of common stock at an exercise price of $3.59 per share, subject to adjustments set forth in the warrant. 97,493 shares of common stock became immediately exercisable upon our receipt of the first advance of $5.0 million on November 25, 2013. The remaining 97,493 shares of common stock will automatically become exercisable if and when Hercules makes any subsequent advance to us. The warrant will expire on November 25, 2018. On November 25, 2013, we also entered into a registration agreement with Hercules, pursuant to which we have agreed to file a registration statement under the Securities Act, registering the resale by Hercules of the shares of common stock issuable upon exercise of the warrant. We have agreed to use commercially reasonable efforts to cause such registration statement to become effective and to keep it continuously effective until the earliest of (i) the shares of common stock issuable upon exercise of the warrant have been disposed of pursuant to such registration statement, (ii) such shares can be sold under Rule 144 without limitation or other restriction or (iii) the first year anniversary of the effective date of such registration statement.

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 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 will assess our product pipeline and research and development priorities. 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 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.

Our current business strategy includes the possibility of entering into collaborative arrangements with third parties to complete the development and commercialization of our product candidates. In the event that third parties take over the clinical trial process for one or more of our product candidates, the estimated completion date would largely be under the control of that third party rather than us. We cannot forecast with any degree of certainty which proprietary products or indications, if any, will be subject to future collaborative arrangements, in whole or in part, and how such arrangements would affect our development plan or capital requirements. We may also apply for subsidies, grants or government or agency-sponsored studies that could reduce our development costs.

As a result of the uncertainties discussed above, 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 our research and development projects in a timely manner or to obtain positive results in our clinical trials, as well as any 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 and clinical trials or whether we are in a position to pursue manufacturing or commercialization activities, it is clear we will need significant additional capital to develop our product candidates through clinical development, manufacturing and commercialization. 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.

Corporate Information

We were founded in 1982 and are a Delaware corporation. Our shares of common stock trade on The NASDAQ Capital Market under the symbol “CLSN.” Our principal executive offices are located at 997 Lenox Drive, Suite 100, Lawrenceville, New Jersey 08648. Our telephone number is (609) 896-9100 and our website is www.celsion.com. The information available on or through our website is not part of, nor incorporated by reference into, this prospectus supplement or the accompanying prospectus, and should not be relied upon.

THE OFFERING

Common stock offered by us	3,603,604 shares
Common stock to be outstanding before this offering	13,604,975 shares (as more fully described in the notes following this table)
Common stock to be outstanding after this offering	17,208,579 shares (as more fully described in the notes following this table)
Warrants offered by us	Warrants to purchase up to 1,801,802 shares of common stock will be offered in this offering. 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 will be exercisable at an exercise price of $4.10 per share of our common stock. This prospectus also relates to the offering of the share of our common stock issuable upon exercise of the warrants.
	There is no established public trading market for the warrants and we do not expect a market to develop. We do not intend to apply for a listing of the warrants on any national securities exchange. Without an active market, the liquidity of the warrants will be limited.
Manner of offering	Registered direct offering. See “Plan of Distribution” on page S-24 of this prospectus supplement.
Use of proceeds	We currently intend to use the net proceeds from this offering for general corporate purposes, including research and development activities, capital expenditures and working capital. We may also use all or a portion of the net proceeds from this offering to fund possible investments in, or acquisitions of, complementary businesses, technologies or products, but we currently have no agreements or commitments with respect to any investment or acquisition. See “Use of Proceeds” on page S-19 of this prospectus supplement.
NASDAQ Capital Market symbol	CLSN
Risk factors	Investing in our securities involves a high degree of risk. See “Risk Factors” beginning on page S-7 of this prospectus supplement.

The number of shares of our common stock shown above to be outstanding immediately after this offering is based on 13,604,975 shares outstanding as of September 30, 2013 (after giving effect to the one-for-4.5 reverse split of our

common stock effective as of October 28, 2013), and excludes, as of such date:

865,609 shares of our common stock subject to outstanding options having a weighted average exercise price of $12.29 per share, and 3,037 shares of common stock subject to outstanding non-vested restricted stock awards with a weighted average grant date fair value of $13.64;

326,966 shares of our common stock reserved for future issuance pursuant to our existing stock incentive plans;

3,073,027 shares of our common stock issuable upon exercise of warrants outstanding as of September 30, 2013, having a weighted average exercise price of $10.89 per share;

194,986 shares of common stock issuable upon exercise of the warrant issued to Hercules Technology Growth Capital, Inc. on November 25, 2013 in connection with the extension of a secured term loan to us, including 97,493 shares of common stock that will become exercisable upon an additional advance under the secured term loan to us, at an exercise price of $3.59 per share;

147,760 shares of our common stock held as treasury stock; and

up to 1,801,802 shares of our common stock issuable upon exercise of the warrants to be issued in this offering, having an exercise price of $4.10 per share.

RISK FACTORS

Investing in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the risks discussed below, together with the risks under the heading "Risk Factors" beginning on page 18 under Part I, Item IA of our Annual Report on Form 10-K and Amendment No. 1 on Form 10-K/A for the fiscal year ended December 31, 2012, filed with the Securities and Exchange Commission on March 18, 2013 and April 30, 2013, respectively, and any subsequent Quarterly Report on Form 10-Q, which are incorporated by reference into this prospectus supplement and the accompanying prospectus, as well as the other information in this prospectus supplement, the accompanying prospectus, the information and documents incorporated by reference and in any free writing prospectus that we have authorized for use in connection with this offering. If any of the identified risks actually occur, they could materially adversely affect our business, financial condition, operating results or prospects and the trading price of our securities. Additional risks and uncertainties that we do not presently know or that we currently deem immaterial may also impair our business, financial condition, operating results and prospects and the trading price of our securities.

RISKS RELATED TO OUR BUSINESS

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

Since our inception, our expenses have substantially exceeded our revenues, resulting in continuing losses and an accumulated deficit of $165.0 million at September 30, 2013. Because we presently have no product revenues and we are committed to continuing our product research, development and commercialization programs, we will continue to experience significant operating losses unless and until we complete the development of ThermoDox® and other new products and these products have been clinically tested, approved by the U.S. Food and Drug Administration (FDA) and successfully marketed.

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

We have a number of drug candidates in research and development ranging from the early discovery research phase through preclinical testing and clinical trials. Preclinical testing and clinical trials are long, expensive and highly uncertain processes and failure can unexpectedly occur at any stage of clinical development. Drug development is very risky. It will take us several years to complete clinical trials. 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.

On January 31, 2013, we announced that our lead product ThermoDox® in combination with radiofrequency ablation failed to meet the primary endpoint of the Phase III clinical trial for primary liver cancer (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®. ThermoDox® is also being evaluated in a Phase II clinical trial for recurrent chest wall breast cancer and other preclinical studies. Even with success in preclinical testing and previously completed clinical trials, the risk of clinical failure for any drug candidate remains high prior to regulatory approval. Even if ThermoDox® has positive results in its Phase II clinical trials, there is a substantial risk that it will fail to have sufficiently positive results in Phase III clinical trials with regard to efficacy, safety or other clinical outcomes. One or more of our clinical studies could fail at any time, as evidenced by the failure of ThermoDox® to meet its primary endpoint in the HEAT study. 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 significant 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®, is 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 will continue to follow the patients enrolled in the Heat study to the secondary endpoint, overall survival. ThermoDox® is currently also being evaluated in Phase II clinical trials and other preclinical studies. We do not expect to realize any revenues from product sales in the next several years, if at all. 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 September 30, 2013, we had approximately $45.5 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. For example, ThermoDox® is being evaluated in a Phase III clinical trial for hepatocellular carcinoma, a Phase II clinical trial for recurrent chest wall breast cancer and other preclinical studies. We will 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. 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.

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 expense 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.

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. We have entered into 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 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.

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 research organizations to conduct our clinical trials. Because we do not conduct our own clinical trials, we must rely on the efforts of others and cannot always control or 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 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 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.

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 revenues 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 us.

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 payers as clinically useful, cost effective and safe. Any or our drug candidates may prove not to be effective in practice. If testing and clinical practice do not confirm the safety and efficacy of our product candidates or even if further testing and clinical practice produce positive results but the medical community does not view these new forms of treatment as effective and desirable, our efforts to market our new products may fail, which would 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.

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 products and business.

Our success depends significantly on the continued contributions of our executive officers, scientific and technical personnel and consultants, and on our ability to attract additional personnel as we seek to implement our business strategy and develop our products and businesses. 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.

If we engage in acquisitions, reorganizations or business combinations, we will incur a variety of risks that could adversely affect our business operations or our stockholders.

We may consider strategic alternatives intended to further the development of our business, which may include acquiring businesses, technologies or products or entering into a business combination with another company. If we do pursue such a strategy, we could, among other things:

issue equity securities that would dilute our current stockholders' percentage ownership;

incur substantial debt that may place strains on our operations;

spend substantial operational, financial and management resources in integrating new businesses, personnel intellectual property, technologies and products;

assume substantial actual or contingent liabilities;

reprioritize our development programs and even cease development and commercialization of our drug candidates;

suffer the loss of key personnel, or

merge with, or otherwise enter into a business combination with, another company in which our stockholders would receive cash or shares of the other company or a combination of both on terms that certain of our stockholders may not deem desirable.

Although we intend to evaluate and consider different strategic alternatives, we have no agreements or understandings with respect to any acquisition, reorganization or business combination at this time.

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 $10.0 million per incident and $10.0 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.

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. Prior to the effectiveness of the one-for-4.5 reverse split of our common stock as of October 28, 2013, the closing sale price of our common stock had a high price of $4.23 and a low price of $1.69 in the 52-week period ended December 31, 2011, a high price of $8.83 and a low price of $1.64 in the 52-week period ended December 31, 2012 and a high price of $9.35 and a low price of $0.77 from January 1, 2013 through October 28, 2013. The closing sale price of our common stock had a high price of $5.14 and a low price of $3.55 for the period from October 29, 2013 to January 17, 2014 after the effectiveness of the one-for-4.5 reverse split of our common stock as of October 28, 2013. 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:

- 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;

announcements of significant new products, contracts, acquisitions or strategic alliances by us or 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 expected sales of our common stock by our stockholders; 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.

Investors in this offering will experience substantial dilution in the net tangible book value per share of the common stock issuable upon conversion or exercise of the securities they purchase.

Investors in this offering will suffer substantial dilution in the net tangible book value of our common stock as of September 30, 2013 because each of the purchase price per share for our common stock offered in this offering and the exercise price per share of our common stock for the warrants offered in this offering is higher than the net tangible book value per share of our common stock as of September 30, 2013. See the section titled "Dilution" on page S-20 of this prospectus supplement for a more detailed discussion of the dilution you will incur in this offering. In addition, we have a significant number of options and warrants outstanding which have an exercise price lower than the purchase price or exercise price per share for the common stock or warrants offered in this offering. If the holders of these securities exercise any such securities, the investors will incur further dilution.

We may be unable to maintain compliance with 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 January 17, 2014, the closing sale price of our common stock was $3.96, 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 $52.9 million and the total market value of our listed securities was approximately $53.9 million. As of September 30, 2013, we had stockholders' equity of $29 million. However, there is no assurance that we will continue to meet the minimum closing price requirement and other listing requirements.

On October 29, 2013, we effected a one-for-4.5 reverse stock split of its common stock. The reverse split may improve our ability to meet NASDAQ's closing bid price requirement. Other companies have found that the increased stock prices resulting from reverse splits tend to diminish over time unless supported by positive developments in the business.

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.

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 January 15, 2014, we had 13,604,975 shares of common stock outstanding, all of which shares 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. Our stockholders may experience significant dilution as a result of future equity offerings or issuance. Investors purchasing shares or other securities in the future could have rights superior to existing stockholders. As of January 15, 2014, we had a significant number of securities convertible into, or allowing the purchase of, our common stock, including 3,268,012 shares of common stock issuable upon exercise of the outstanding warrants (without taking into account the warrants to be issued in the offering covered by this prospectus supplement), 868,646 shares of common stock underlying the outstanding options and outstanding restricted stock awards and 326,966 shares of common stock reserved for future issuance under our stock incentive plans. Under the Controlled Equity Offering^{SM} 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 $25.0 million of shares of our common stock. In connection with the offering of shares of common stock and warrants covered by this prospectus supplement, the Company agreed to not sell any ATM Shares for a period of six months from the closing date of this offering.

We have broad discretion in the use of the net proceeds from this offering.

Our management will have broad discretion in the application of the net proceeds from this offering and could spend the proceeds in ways with which you may not agree. Accordingly, you will be relying on the judgment of our management with regard to the use of the net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. We are currently evaluating our product pipeline, including the future strategic value of ThermoDox®, as well as strategic alternatives. We may use the net proceeds to continue or expand our research and development activities or to fund possible investments in, or acquisitions of, complementary businesses, technologies or products. It is possible that the net proceeds will be invested or otherwise used in a way that does not yield a favorable, or any, return for us.

We reassessed our accounting of our preferred stock offering in 2011 based on a review by the Public Company Accounting Oversight Board of our 2011 financial statement audit.

We reassessed the application of ASC 470-20, *Debt with Conversion and Other Options* as it relates to the 8% Series A redeemable convertible preferred stock offering completed in January 2011 (the Preferred Offering). We received gross proceeds from the Preferred Offering of approximately $5.1 million, in which we sold 5,000 shares of 8% redeemable convertible preferred stock with a stated value of $1,000 per share, each share convertible into 92.5926 shares of common stock, and warrants to purchase up to approximately 463,000 shares of common stock. All of the 5,000 shares of preferred stock sold in the Preferred Offering were converted into the stated number of common stock shares as of August 2011. ASC 470-20 requires us to value the preferred stock and common stock warrants, any resulting beneficial conversion feature(s) resulting from the valuation of these securities and to determine and record the value of each of these securities or conversion feature as debt or equity based on the interpretation and application of ASC 470-20.

We allocated the proceeds of the Preferred Offering between the redeemable preferred stock and the warrants based on fair value and correctly recorded the redeemable preferred stock as a liability (debt), but did not consider the embedded beneficial conversion feature (BCF) associated with the redeemable preferred stock. ASC 470-20 required us to record a BCF of approximately $5.0 million at the time of issuance of the $5.0 million of shares of convertible preferred stock and to amortize the BCF as non-cash interest expense over the conversion period. Since all of the shares of convertible preferred stock were converted by August 8, 2011, the entire $5.0 million of BCF should have been amortized as interest expense during 2011. As a result, our interest expense and net loss were understated by $5.0 million. The error had no effect on cash, cash flows or total shareholders' equity during 2011 and had no effect on cash, cash flows, net income or total shareholders' equity for any subsequent periods. After considering the quantitative and qualitative effects of the errors to the 2011 annual financial statements, as well as the quarterly period financial statements within 2011, in the opinion of management the error is not material to assessing the financial condition or operations of the Company. If the SEC were to disagree with our conclusion, we could be asked to restate our 2011 financial statements. W have adjusted additional paid-in capital and a corresponding offset to retained earnings on the September 30, 2013 and December 31, 2012 balance sheets to reflect this adjustment.

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 2012 and 2011, 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 carryforwards. The Company determined that it experienced an ownership change, as defined by Section 382, in connection with its registered direct and private placement offerings on July 25, 2011. As a result, the utilization of the Company's federal tax net operating loss carryforwards generated prior to the ownership change 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 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.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements contained or incorporated by reference in this prospectus supplement, the accompanying prospectus and any related free writing prospectus constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 and releases issued by the Securities and Exchange Commission (SEC) and within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. From time to time, we publish forward-looking statements relating to matters such as anticipated financial performance, business prospects, technological developments, new products, research and development activities and other aspects of our present and future business operations as well as similar matters. 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. Forward-looking statements include, among others:

- any statements regarding future operations, plans, regulatory filings or approvals, including the plans and objectives of management for future operations or programs or proposed new products or services;
- any statements regarding the performance, or likely performance, or outcomes or economic benefit of any of our research and development activities, proposed or potential clinical trials or new drug filing strategies or timelines, including whether any of our clinical trials will be completed successfully within any specified time period or at all;
- any projections of earnings, cash resources, revenue, operating expense or other financial terms;
- any statements regarding development or changes in the course of research and development activities and in clinical trials;
- any statements regarding cost and timing of development and testing, capital structure, financial condition, working capital needs and other financial items;
- any statements regarding existing or future collaborations, mergers, acquisitions or other strategic transactions;
- any statements regarding approaches to medical treatment, any introduction of new products by others, any possible licenses or acquisitions of other technologies, assets or businesses, or possible actions by customers, suppliers, strategic partners, potential strategic partners, competitors or regulatory authorities;
- any statements regarding compliance with the listing standards of The NASDAQ Capital Market; and

- any statements regarding future economic conditions or performance and any statement of assumptions underlying any of the foregoing.

In some cases, you can identify forward-looking statements by terminology such as “expect,” “anticipate,” “estimate,” “continue,” “plan,” “believe,” “could,” “intend,” “predict,” “project,” “may,” “should,” “will” and words of similar import rega expectations. Forward-looking statements are only predictions and actual events or results may differ materially. Although we believe that our expectations are based on reasonable assumptions within the bounds of our current 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 the heading “Risk Factors” contained in this prospectus supplement, the accompanying prospectus and any related free writing prospectus, and in our most recent Annual Report on Form 10-K and our most recent Quarterly Report on Form 10-Q, as well as any amendments thereto reflected in subsequent filings with the SEC. The discussion of risks and uncertainties set forth in those filings is not necessarily a complete or exhaustive list of all risks facing us 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 over time new risks will emerge and the nature and elements of existing risks will change. 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. Forward-looking statements represent our estimates and assumptions only as of the date such forward-looking statements are made. You should carefully read this prospectus supplement, the accompanying prospectus and any related free writing prospectus, together with the information incorporated herein or therein by reference, and with the understanding that our actual future results may materially differ from what we expect.

Except as required by law, forward-looking statements speak only as of the date they are made, and we assume no obligation to update any forward-looking statements publicly or to update the reasons why actual results could differ materially from those anticipated in any forward-looking statements, even if new information becomes available.

USE OF PROCEEDS

We currently intend to use the net proceeds from this offering for general corporate purposes, including research and development activities, capital expenditures and working capital. We may also use all or a portion of the net proceeds from this offering to fund possible investments in, or acquisitions of, complementary businesses, technologies or products, but we currently have no agreements or commitments with respect to any investment or acquisition. Pending the application of the net proceeds, we intend to invest the net proceeds in short-term, investment grade, interest-bearing securities.

As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses for the net proceeds to us from this offering, if any. As a result, our management will have broad discretion regarding the timing and application of the net proceeds from this offering.

DILUTION

If you invest in our common stock and warrants to purchase common stock offered by this prospectus supplement and the accompanying prospectus, you will experience immediate dilution to the extent of the difference between the price per unit you pay in this offering and the net tangible book value per share of our common stock immediately after this offering. Our net tangible book value as of September 30, 2013 was approximately $28.8 million, or approximately $2.11 per share of common stock. Net tangible book value per share as of September 30, 2013 equals the sum of our total tangible assets minus total liabilities, divided by the number of shares of our common stock outstanding as of September 30, 2013.

Dilution in net tangible book value per share represents the difference between the amount per share paid by the investors in this offering and the net tangible book value per share of our common stock immediately after this offering. After giving effect to the sale of 3,603,604 shares of our common stock and warrants to purchase up to 1,801,802 shares of common stock in this offering at the offering price of $4.1625 per unit, and after deducting the placement agent fees and the estimated offering expenses payable by us, our as adjusted net tangible book value as of September 30, 2013 would have been approximately $42.5 million, or approximately $2.47 per share of common stock. This represents an immediate increase in the net tangible book value of approximately $0.36 per share to our existing stockholders and an immediate dilution in the net tangible book value of approximately $1.6925 per share to investors participating in this offering. The following table illustrates this calculation on a per share basis.

Public offering price per unit		$4.1625
Net tangible book value per share as of September 30, 2013	$2.11	
Increase in net tangible book value per share attributable to this offering	$0.36	
As adjusted net tangible book value per share as of September 30, 2013, after giving effect to this offering		$2.47
Dilution per share to investors purchasing shares in this offering		$1.6925

The number of shares of our common stock shown above to be outstanding immediately after this offering is based on 13,604,975 shares outstanding as of September 30, 2013 (after giving effect to the one-for-4.5 reverse split of our common stock effective as of October 28, 2013), and excludes, as of such date:

- 865,609 shares of our common stock subject to outstanding options having a weighted average exercise price of $12.29 per share, and 3,037 shares of common stock subject to outstanding non-vested restricted stock awards with a weighted average grant date fair value of $13.64;

- 326,966 shares of our common stock reserved for future issuance pursuant to our existing stock incentive plans;

3,073,027 shares of our common stock issuable upon exercise of warrants outstanding as of September 30, 2013, having a weighted average exercise price of $10.89 per share;

194,986 shares of common stock issuable upon exercise of the warrant issued to Hercules Technology Growth Capital, Inc. on November 25, 2013 in connection with the extension of a secured term loan to us, including 97,493 shares of common stock that will become exercisable upon an additional advance under the secured term loan to us, at an exercise price of $3.59 per share;

147,760 shares of our common stock held as treasury stock; and

up to 1,801,802 shares of our common stock issuable upon exercise of the warrants to be issued in this offering, having an exercise price of $4.10 per share.

If the investors purchasing the shares of common stock and warrants to purchase common stock exercise all of the warrants at the exercise price of $4.10 per share in cash payment, after deducting the placement agent fees and the estimated offering expenses payable by us, our as adjusted net tangible book value as of September 30, 2013 would have been approximately $49.9 million, or approximately $2.63 per share of common stock. This represents an immediate increase in the net tangible book value of approximately $0.52 per share to our existing stockholders and an immediate dilution in the net tangible book value of approximately $1.51 per share to investors participating in this offering.

To the extent that any of our outstanding options or warrants are exercised, new options are issued under our stock incentive plans or we otherwise issue additional shares of common stock in the future, there may be further dilution to the investors participating in this offering.

PRICE RANGE OF OUR COMMON STOCK

Our common stock trades on The NASDAQ Capital Market under the symbol "CLSN." The following table sets forth, for the periods indicated, the reported high and low closing sale prices per share of our common stock on The NASDAQ Capital Market (after giving effect to the one-for-4.5 reverse split of our common stock that became effective as of October 28, 2013).

Period	High	Low
Year Ending December 31, 2014		
First Quarter (January 1, 2014 to January 17, 2014)	$4.57	3.93
Year Ended December 31, 2013		
First Quarter	42.12	4.37
Second Quarter	8.42	3.47
Third Quarter	6.40	4.91
Fourth Quarter	5.14	5.18
Year Ended December 31, 2012		
First Quarter	10.00	7.39
Second Quarter	14.10	7.93
Third Quarter	26.58	12.84
Fourth Quarter	39.77	19.37

On January 17, 2014, the last reported closing sale price of our common stock on The NASDAQ Capital Market was $3.96 per share.

DESCRIPTION OF SECURITIES WE ARE OFFERING

We are offering 3,603,604 shares of our common stock, par value $0.01 per share, and warrants to purchase up to 1,801,802 shares of our common stock to certain institutional investors. The shares of common stock and warrants will be 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 at an exercise price of $4.10 per share of common stock and a Series B warrant to purchase 0.25 share of common stock at an exercise price of $4.10 per share of common stock. Each unit will be sold at a purchase price of $4.1625. This prospectus supplement also relates to the offering of the shares of our common stock issuable upon exercise of the warrants. There is no established public trading market for the warrants and we do not expect a market to develop. We do not intend to apply for a listing of the warrants on any national securities exchange.

Common Stock

The material terms and provisions of our common stock are described under the heading “Description of Capital Stock” starting on page 9 of the accompanying prospectus.

Warrants

The following is a brief summary of the warrants and is subject to, and qualified in its entirety by, the terms set forth in the forms of the Series A common stock purchase warrant and the Series B common stock purchase warrant to be filed as exhibits to our Current Report on Form 8-K, which we expect to file with the Securities and Exchange Commission in connection with this offering.

Exercisability. Holders of Series A warrants may exercise the warrants at any time on or after the date of issuance and on or prior to the close of business on the date that is five years after the date of issuance, subject to the beneficial ownership limitation described below. Holders of Series B warrants may exercise the warrants at any time on or after the date of issuance and on or prior to the close of business on the date that is one year after the date of issuance, subject to the beneficial ownership limitation described below. Each warrant is exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice. The holder shall deliver the aggregate exercise price for the shares of common stock specified in the exercise notice within three trading days following the date of exercise unless the cashless exercise is specified in the exercise notice.

Cashless Exercise. If, at the time of exercise of a warrant, there is no effective registration statement registering the shares of common stock issuable upon exercise of the warrant or the prospectus contained in the registration statement

is not available for the issuance of the shares of common stock issuable upon exercise of the warrant, the holder may only exercise the warrant, in whole or in part, on a cashless basis. When exercised on a cashless basis, a portion of the warrant is cancelled in payment of the purchase price payable in respect of the number of shares of our common stock purchasable upon such exercise. Any warrant that is outstanding on the termination date of the warrant shall be automatically exercised via cashless exercise.

Exercise Price. The exercise price of each warrant is $4.10 per share of common stock and is subject to adjustment as described below.

Beneficial Ownership Limitation.

We shall not effect any exercise of a warrant, and a holder shall have no right to exercise any portion of a warrant, to the extent that, after giving effect to such exercise, such holder, together with such holder's affiliates, and any persons acting as a group together with such holder or any such affiliate, would beneficially own in excess of, at the initial option of the holder thereof, 4.99% or 9.99% of the number of shares of common stock outstanding immediately after giving effect to the issuance of the shares of common stock upon such exercise. The holder of the warrant, upon not less than 61 days' prior notice to us, may increase or decrease the beneficial ownership limitation to a percentage not to exceed 9.99%. Beneficial ownership of the holder and its affiliates will be determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

Exercise Price Adjustment.

Stock dividends and stock splits. If we pay a stock dividend or otherwise make a distribution payable in shares of common stock on shares of common stock or any other common stock equivalents, subdivide or combine outstanding common stock, or reclassify common stock, the exercise price will be adjusted by multiplying the then exercise price by a fraction, the numerator of which shall be the number of shares of common stock (excluding treasury shares, if any) outstanding immediately before such event, and the denominator of which shall be the number of shares outstanding immediately after such event.

Rights Offerings. If we issue common stock equivalents or rights to purchase stock, warrants, securities or other property pro rata to holders of common stock, a holder of a warrant will be entitled to acquire, subject to the beneficial ownership limitation described above, such common stock equivalents or rights that such holder could have acquired if such holder had held the number of shares of common stock issuable upon complete exercise of the warrant immediately prior to the date a record is taken for such issuance.

Pro Rata Distributions. If we distribute to holders of common stock evidences of our indebtedness, assets, warrants or other rights to subscribe for any security, then the exercise price will be adjusted by multiplying the exercise price in effect immediately prior to the record date for such distribution by a fraction, the numerator of which is the volume weighted average price (as defined in the warrant) of the common stock on such record date minus the fair market value at such record date of the distributed evidence of indebtedness, asset, warrant or other right applicable to one share of common stock, such fair market value to be determined by our board of directors in good faith, and the

denominator of which is the volume weighted average price (as defined in the warrant) of the common stock on such record date.

Fundamental Transaction. If we effect a fundament transaction, including, among other things, a merger, sale of substantially of the assets, tender offer, exchange offer and other business combination transactions, then upon any subsequent exercise of a warrant, the holder thereof shall have the right to receive, for each share of common stock that would have been issuable upon such exercise immediately prior to the occurrence of such fundamental transaction, the number of shares of the successor's or acquiring corporation's common stock or of our common stock, if we are the surviving corporation, and any additional consideration receivable as a result of such fundamental transaction by a holder of the number of shares of common stock for which the warrant is exercisable immediately prior to such fundamental transaction.

Transferability. Each warrant and all rights thereunder are transferable, in whole or in part, upon surrender of the warrant, together with a written assignment of the warrant.

No Rights as Stockholder Until Exercise. The holders of the warrants do not have any voting rights, dividends or other rights as a holder of our capital stock until they exercise the warrants.

Fractional Shares. No fractional shares of common stock will be issued upon exercise of any warrant. We shall, at our election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the exercise price or round up to the next whole share.

PLAN OF DISTRIBUTION

Pursuant to an engagement letter dated as of May 30, 2013, as amended as of January 14, 2014, by and between H.C. Wainwright & Co., LLC and us, we have engaged H.C. Wainwright & Co., LLC as our exclusive placement agent in connection with this offering. H.C. Wainwright & Co., LLC is not purchasing any shares of our common stock for its own account in this offering and is not required to arrange the purchase or sale of any specific number or dollar amount of the shares of our common stock.

H.C. Wainwright & Co., LLC has agreed to use it reasonable best efforts to arrange for the sale of all of the shares of our common stock in this offering. There is no requirement that any minimum number or dollar amount of the shares of our common stock be sold in this offering and there can be no assurance that we will sell all or any of the shares being offered. We have entered into a securities purchase agreement on January 15, 2014 directly with the investors who agree to purchase shares of commons stock and warrants to purchase common stock in this offering. The engagement letter, as amended, and the securities purchase agreement provide that the obligations of H.C. Wainwright & Co., LLC and the investors are subject to certain conditions precedent, including, among other things, the absence of any material adverse change in our business and the receipt of certain opinions, letters and certificates from us or our counsel, as applicable.

We currently anticipate that the closing of this offering will take place on or about January 21, 2014. On the closing date, the following will occur:

- we will receive funds in the amount of the aggregate purchase price;
- H.C. Wainwright & Co., LLC, as the placement agent, will receive the placement agent fees in accordance with the terms of the engagement letter; and
- we will deliver the shares of our common stock to the investors.

We have agreed to pay H.C. Wainwright & Co., LLC the placement agent fees equal to 7.5%, or $1,125,000.12, of the gross proceeds from the sale of the shares in this offering.

The following table shows the per share and total placement agent fees we will pay in connection with the sale of the units, assuming the purchase of all of the units we are offering.

Per unit placement agent fees	$0.3121875
Maximum Offering Total	$1,125,000.12

Because there is no minimum offering amount required as a condition to the closing in this offering, the actual total offering commissions, if any, are not presently determinable and may be substantially less than the maximum amount set forth above.

In no event will the total amount of compensation paid to the placement agent or any other member of FINRA or independent broker-dealer upon completion of this offering exceed 8% of the gross proceeds of the offering. We estimate the total expenses of this offering, which will be payable by us, excluding the placement agent fees, will be approximately $89,000. After deducting the fees due to the placement agent and our estimated offering expenses, we expect the net proceeds from this offering to be approximately $13.8 million.

Our obligations to issue and sell units to the investors is subject to the conditions set forth in the securities purchase agreement, which may be waived by us at our discretion. An investor’s obligation to purchase units is subject to the conditions set forth in the securities purchase agreement as well, which may also be waived.

We have agreed to indemnify H.C. Wainwright & Co., LLC and certain other persons against certain liabilities relating to or arising out of H.C. Wainwright & Co., LLC’s activities under the engagement letter. We have also agreed to contribute to payments H.C. Wainwright & Co., LLC may be required to make in respect of such liabilities. We have agreed to indemnify H.C. Wainwright & Co., LLC and specified other persons against some civil liabilities, including liabilities under the Securities Act of 1933, as amended (Securities Act), and the Securities Exchange Act of 1934, as amended (Exchange Act), and to contribute to payments that H.C. Wainwright & Co., LLC may be required to make in respect of such liabilities.

H.C. Wainwright & Co., LLC may be deemed to be an underwriter within the meaning of Section 2(a)(11) of the Securities Act, and any commissions received by it and any profit realized on the resale of the units sold by it while acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. As an underwriter, H.C. Wainwright & Co., LLC would be required to comply with the requirements of the Securities Act and the Exchange Act, including, without limitation, Rule 415(a)(4) under the Securities Act and Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of shares of common stock by H.C. Wainwright & Co., LLC acting as principal. Under these rules and regulations, H.C. Wainwright & Co., LLC.

- may not engage in any stabilization activity in connection with our securities; and

- may not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities, other than as permitted under the Exchange Act, until it has completed its participation in the distribution.

Prior to the offering, H.C. Wainwright & Co., LLC and its affiliates beneficially owned no shares of our common stock.

A copy of the amendment to engagement letter, the securities purchase agreement we entered into with the purchasers, the form of the Series A common stock purchase warrant and the form of the Series B common stock purchase warrant will be included as exhibits to our Current Report on Form 8-K that will be filed with the Securities and Exchange Commission in connection with the consummation of this offering.

The transfer agent for our common stock is American Stock Transfer & Trust Company, LLC, located at 6201 15th Avenue, Brooklyn, NY 11219. Its telephone number is 718-921-8200.

Our common stock is traded on The NASDAQ Capital Market under the symbol “CLSN.”

LEGAL MATTERS

Certain legal matters in connection with the shares of common stock offered hereby will be passed upon for us by O'Melveny & Myers LLP, Menlo Park, California.

EXPERTS

Stegman & Company, independent registered public accounting firm, has audited our financial statements included in our Annual Report on Form 10-K, as amended by Amendment No. 1 on Form 10-K/A, for the year ended December 31, 2012, as set forth in their report, which is incorporated by reference in this prospectus supplement and the accompanying prospectus. Our financial statements are incorporated by reference in reliance on Stegman & Company's report, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the information reporting requirements of the Securities Exchange Act of 1934, as amended (Exchange Act). In accordance with the Exchange Act, we file annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission (SEC). Such reports, proxy statements and other information filed by us are available to the public free of charge at www.sec.gov. You may also read and copy any document we file with the SEC at the public reference facilities maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the public reference facilities by calling the SEC at 1-800-SEC-0330. Copies of certain information filed by us with the SEC are also available on our website at www.celsion.com. The information available on or through our website is not part of this prospectus supplement or the accompanying prospectus and should not be relied upon.

This prospectus supplement and the accompanying prospectus are part of a registration statement that we filed with the SEC. This prospectus supplement and the accompanying prospectus omit some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits in the registration statement for further information about us and the securities being offered hereby. Statements in this prospectus supplement or the accompanying prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to the filings. You should review the complete document to evaluate these statements.

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INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The Securities and Exchange Commission (SEC) rules allow us to "incorporate by reference" into this prospectus supplement and the accompanying prospectus much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference into this prospectus supplement and the accompanying prospectus is considered to be part of this prospectus supplement and the accompanying prospectus. These documents may include Annual Reports on Form 10-K and Form 10-K/A, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements.

This prospectus supplement and the accompanying prospectus incorporate by reference the documents listed below and any future filings we make with the SEC under Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act (in each case, other than those documents or the portions of those documents deemed to be furnished and not filed in accordance with SEC rules):

our Annual Report on Form 10-K and Amended No. 1 on Form 10-K/A for the fiscal year ended December 31, 2012, filed with the SEC on March 18, 2013 and April 30, 2013, respectively;

our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2013, filed with the SEC on May 9, 2013;

our Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2013, filed with the SEC on August 8, 2013;

our Quarterly Report on Form 10-Q for the fiscal quarter ended September 30, 2013, filed with the SEC on November 12, 2013;

our Current Reports on Form 8-K filed with the SEC on January 25, 2013, January 31, 2013, February 1, 2013, February 6, 2013, February 22, 2013, February 26, 2013, May 31, 2013, June 3, 2013, July 2, 2013, July 22, 2013, October 29, 2013, November 12, 2013, November 26, 2013 and January 15, 2014;

our Definitive Proxy Statement on Schedule 14A filed with the SEC on June 7, 2013; and

the description of our common stock contained in our registration statement on Form 8-A filed with the SEC on May 26, 2000, as amended by a Form 8-A/A dated February 7, 2008, and any amendments or reports filed for the purpose of updating such description.

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

Because we are incorporating by reference future filings with the SEC, this prospectus supplement and the accompanying prospectus are continually updated and later information filed with the SEC may update and supersede some of the information included or incorporated by reference in this prospectus supplement and the accompanying prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus supplement and the accompanying prospectus or in any document previously incorporated by reference have been modified or superseded.

We will provide without charge to each person, including any beneficial owners, to whom this prospectus supplement is delivered, upon his or her written or oral request, a copy of any or all documents referred to above which have been or may be incorporated by reference into this prospectus supplement and the accompanying prospectus but not delivered with this prospectus supplement. You may request a copy of these documents by writing or telephoning us at the following address:

Celsion Corporation

997 Lenox Drive, Suite 100

Lawrenceville, New Jersey 08648

(609) 896-9100

Attention: Jeffrey W. Church

Senior Vice President and Chief Financial Officer