As filed with the Securities and Exchange Commission on December 21, 2011

Registration No. 333-

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-1

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

CELSION CORPORATION

(Exact name of Registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization) 2834

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

(Primary Standard Industrial Classification Code Number)

Lawrenceville, New Jersey 08648 (609) 896-9100

(Address, Including Zip Code, and Telephone Number including Area Code, of Registrant's Principal Executive Offices)

997 Lenox Drive, Suite 100

Michael H. Tardugno President and Chief Executive Officer 997 Lenox Drive, Suite 100 Lawrenceville, New Jersey 08648 (609) 896-9100

(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

Copies to: Sam Zucker, Esquire O'Melveny & Myers LLP 2765 Sand Hill Road Menlo Park, California 94025 (650) 473-2600

Approximate date of commencement of proposed sale to the public:

From time to time after the effective date of this registration statement.

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

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

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer o	ated filer I	Non-acceleration O (Do not che smaller rep compan	ck if a orting	Smaller reporting company ý	
	Amount to be	Proposed Maximum Offering	Proposed Maximum	Amount of	
Title of Each Class of Se To Be Registered Common Stock, par valu	Registered (1)	Price Per Share	Aggregate Offering Pric	Registration	
per share Common Stock, par valu per share, issuable upon o	6,486,488	\$1.80(2)	\$11,675,678.4	40 \$1,338.03	
of warrants Total	3,243,244 9,729,732		\$7,654,055.8 \$19,329,734.2		

(1) Pursuant to Rule 416(a) under the Securities Act, this registration statement shall be deemed to cover any additional shares of common stock that become issuable

as a result of stock dividends, stock splits and similar transactions effected without receipt of consideration that result in an increase in the number of outstanding shares of the registrant's common stock.

- (2) Estimated solely for the purpose of calculating the amount of the registration fee. Pursuant to Rule 457(c) under the Securities Act, the proposed maximum offering price per share is based on the average of the high and low prices of the registrant's common stock on The NASDAQ Capital Market on December 20, 2011.
- (3) Pursuant to Rule 457(g) under the Securities Act, the proposed maximum offering price per share is based on the exercise price of the warrants, which is \$2.36 per share.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission acting pursuant to said Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. The selling stockholders may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

Subject to Completion, Dated December 21, 2011

PROSPECTUS

9,729,732 Shares

Common Stock

This prospectus relates to the sale or other disposition from time to time of up to 9,729,732 shares of our common stock, which includes 3,243,244 shares of our common stock issuable upon the exercise of warrants, which are held by the selling stockholders named in this prospectus. The shares of common stock covered by this prospectus were previously issued by us to the selling stockholders in a private placement that closed on December 6, 2011, or underlie certain common stock purchase warrants that were previously issued by us to the selling stockholders in that private placement, as more fully described in this prospectus. We are not selling any shares of common stock under this prospectus and will not receive any of the proceeds from the sale of shares of common stock by the selling stockholders. However, we will receive the proceeds of any cash exercise of the warrants.

The selling stockholders may sell or otherwise dispose of the shares of common stock covered by this prospectus in a number of different ways and at varying prices. We provide more information about how the selling stockholders may sell or otherwise dispose of their shares of common stock in the section entitled "Plan of Distribution" on page 28. The selling shareholders will pay all brokerage fees and commissions and similar expenses. We will pay all expenses (except brokerage fees and commissions and similar expenses) relating to the registration of the shares with the Securities and Exchange Commission.

Our common stock is listed on The NASDAQ Capital Market under the symbol "CLSN." On December 20, 2011, the last reported sale price of our common stock on The NASDAQ Capital Market was \$1.81.

Investing in our common stock involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading "Risk Factors" beginning on page 26 of this prospectus, and under similar headings in any amendments or supplements to this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is

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ABOUT THIS PROSPECTUS

You should rely only on the information contained in or incorporated by reference into this prospectus, as supplemented and amended. We have not, and the selling stockholders have not, authorized anyone to provide you with different information. If anyone provides you with additional, different or inconsistent information, you should not rely on it. You should not assume that the information we have included in this prospectus is accurate as of any date other than the date of this prospectus or that any information we have incorporated by reference is accurate as of any date other than the date of the document incorporated by reference. Our business, financial condition, results of operations and prospects may have changed since that date. This document may only be used where it is legal to sell these securities.

We urge you to read carefully this prospectus, as supplemented and amended, together with the information incorporated herein by reference as described under the heading "Information Incorporated by Reference", before deciding whether to invest in any of the common stock being offered.

Unless the context indicates otherwise, as used in this prospectus, the terms "Celsion", "the Company", "we", "us" and "our" refer to Celsion Corporation, a Delaware corporation. The Celsion brand and product names, including but not limited to Celsion ®, contained in this document are trademarks, registered trademarks or service marks of Celsion Corporation in the United States (U.S.) and certain other countries. This document may also contain references to trademarks and service marks of other companies that are the property of their respective owners.

PROSPECTUS SUMMARY

This summary highlights certain information about us, this offering and selected information contained elsewhere in or incorporated by reference into this 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. 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, including the information incorporated by reference in this prospectus and the information referred to under the heading "Risk Factors" in this prospectus beginning on page 6.

Celsion Corporation

Celsion Corporation is an innovative 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.

Our lead product ThermoDox® is being evaluated in a Phase III clinical trial for primary liver cancer (the HEAT study) and a Phase I/II study 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 mild hyperthermia (greater than 40 degrees Celsius) releases the encapsulated doxorubicin from the liposome enabling high concentrations of doxorubicin to be deposited preferentially in a targeted tumor.

The U.S. Food and Drug Administration (FDA) has designated our pivotal Phase III HEAT study for ThermoDox®, in combination with radiofrequency ablation, as a Fast Track Development Program. We have received written guidance from the FDA stating that, assuming the results of our ongoing studies are adequate, we may submit our New Drug Application (NDA) for ThermoDox® pursuant to Section 505(b)(2) of the Federal Food, Drug and Cosmetic Act. A 505(b)(2) NDA provides that some of the information from the reports required for marketing approval may come from studies that the applicant does not own or for which the applicant does not have a legal right of reference and permits a manufacturer to obtain marketing approval for a drug without needing to conduct or obtain a right of reference for all of the required studies. The availability of Section 505(b)(2) and the designation of ThermoDox® as a Fast Track Development Program may provide us with an expedited pathway to approval. There can be no assurance, however, that the results of our ongoing studies will be adequate to obtain approval of ThermoDox® under Section 505(b)(2). Drug research and development is an inherently uncertain process and there is a high risk of failure at every stage prior to approval and 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.

We have also demonstrated feasibility for a product pipeline of cancer drugs that employ our heat activated liposomal technology in combination with known chemotherapeutics including docetaxel and carboplatin. We believe that our technology can improve efficacy and safety of anticancer agents whose mechanism of action and safety profile are well understood by the medical and regulatory communities. Our approach provides a comparatively cost effective, low risk approval pathway. An element of our business strategy is to pursue, as resources permit, the research and development of a range of product candidates for a variety of indications. 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.

Additionally, we have formed a joint research agreement with 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.

On December 5, 2008, we entered into a development, product supply and commercialization agreement with Yakult Honsha Co. (the Yakult Agreement) under which Yakult was granted the exclusive right to commercialize and market ThermoDox® for the Japanese market. We were paid a \$2.5 million up-front licensing fee and we have the potential to receive additional payments from Yakult upon receipt of marketing approval by the Japanese Ministry of Health, Labor and Welfare as well as upon the achievement of certain levels of sales and approval for new indications. Under the Yakult Agreement, we will receive double digit escalating royalties on the sale of ThermoDox® in Japan, when and if any such sales occur and we also will be the exclusive supplier of ThermoDox® to Yakult. Concurrent with a preferred equity financing in January 2011, we amended the Yakult Agreement to provide for up to \$4.0 million in an accelerated partial payment to us of a future drug approval milestone. The terms of the Yakult Agreement provided for the payment to us of \$2.0 million 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 have agreed to reduce future drug approval milestone payments by approximately forty percent (40%). All other milestone payments are unaffected.

On July 11, 2011, after reviewing data from 535 randomized patients enrolled in our pivotal Phase III HEAT study, the Data Monitoring Committee (DMC) for this trial unanimously recommended that the trial continue to enroll patients at all clinical sites except for those in Japan with the goal of reaching enrollment of 600 patients, as required to complete the study. The DMC maintained its recommendation to continue withholding enrollment of additional patients in Japan pending certain guidance from the Pharmaceuticals and Medical Devices Agency (PMDA) in Japan. The recommendation followed a review of safety data from 18 Japanese patients enrolled in the study, when compared to patient data from the rest of the Phase III trial. As a part of its commitment to the PMDA, the DMC independently assesses patients randomized at Japanese sites. The DMC continues to review safety and efficacy data in accordance with the PMDA in Japan and the DMC's charter, however there can be no assurance that the DMC will permit resumption of patient enrollment in Japan or at all nor can there be any assurance that we will receive the second \$2 million payment from Yakult pursuant to the amended Yakult Agreement.

On August 3, 2011, we announced that we had reached our preplanned enrollment objective of 600 patients in the pivotal Phase III HEAT study. The target enrollment figure was designed to ensure that the study's primary end point, progression-free survival, can be achieved with adequate statistical power, and was one of two triggers for an interim efficacy analysis by the study's DMC. The second trigger was the occurrence of 190 progression-free survival (PFS) events in the study population. We met the second trigger of 190 PFS events in the third quarter of 2011. In the fourth quarter of 2011, we announced that the DMC completed the planned interim analysis for safety, efficacy and futility and unanimously recommended that the Phase III HEAT study continue to its final analysis as planned. The DMC evaluated data from 613 patients in its review, which was conducted following the realization of 219 PFS events within the study population. A total of 380 PFS events are required to reach the planned final analysis of the study. However, as previously noted, drug research and development is an inherently uncertain process and we cannot assure that the final analysis will be a success or will be completed within a reasonable timeframe, or at all.

Consistent with the our global regulatory strategy, we are continuing to enroll patients in the HEAT study in order to randomize at least 200 patients in the People's Republic of China (PRC), a requirement for registrational filing in the PRC. The HEAT study has enrolled a sufficient number to support registrational filing in South Korea and Taiwan, two important markets for ThermoDox®. Continued enrollment has the potential to improve the final data read out, though we cannot guarantee such a result.

Our current business strategy also 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 our failure to enter into collaborative agreements when appropriate could significantly increase our capital requirements and could adversely impact our liquidity. While our estimated future capital requirements are uncertain and could increase or decrease as a result of many factors, including the extent to which we choose to advance our research, development and clinical trials, or if we are in a position to pursue manufacturing, 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.

Recent Developments

On November 27, 2011, our board of directors approved and adopted, effective immediately, amended and restated bylaws of the Company. The amended and restated bylaws added certain advance notice requirements for stockholders to propose director nominations or other business to be brought before an annual or special meeting of stockholders, which requirements include, among other things, the following:

- advance notice from a stockholder properly to bring business before an annual meeting shall be delivered to, or mailed and received by, the secretary of the Company at our principal executive offices, not later than the close of business on the 90th calendar day, nor earlier than the close of business on the 120th calendar day in advance of the date of the annual meeting;
- any stockholder that proposes director nominations or other business must be (i) a stockholder of record at the time the advance notice is delivered by such stockholder to us and (ii) entitled to vote at the meeting;
- no public announcement by us of an adjustment or postponement of an annual meeting shall commence or extend a new time period for the giving of the advance notice by any stockholder;
- in addition to the information specified in the preceding bylaws, a stockholder's advance notice with respect to any proposed business (other than nominations) shall set forth (i) the text of the proposal (including the text of any resolutions or amendments to the amended and restated bylaws proposed for consideration), (ii) any material interest in such business of such stockholder and the beneficial owners, if any, on whose behalf the proposal is made, (iii) a description of any agreement, arrangement or understanding with respect to the proposal between or among the stockholder and any beneficial owner, their affiliates and any others acting in concert, (iv) a description of any agreement, arrangement or understanding (including, among other things, derivative or short positions, profit interests, hedging transactions and borrowed or loaned shares) that has been entered into by, or on behalf of, the stockholder and any beneficial owner, (v) a representation that the stockholder is a stockholder of record entitled to vote at the meeting and intends to appear in person or by proxy at the meeting to propose such business, and (vi) a representation whether the stockholder or any beneficial owner intends or is part of a group which intends to deliver a proxy statement or form of proxy to stockholders required to approve or adopt the proposal or otherwise to solicit proxies or votes from stockholders in support of such proposal;
- a proposed director nominee may be required to furnish other information as we may reasonably require to determine the eligibility of the proposed nominee to serve as a director of the Company in addition to the information explicitly required in the amended and restated bylaws;
- the stockholder proposing director nominations or other business shall update and supplement the advance notice so that the information provided shall be true and correct as of the record date for the meeting and as of the date that is 10 business days prior to the meeting;
 - the chairman of the meeting shall have the power and duty (i) to determine whether any director nomination or other business was made or proposed in accordance with the procedures set forth in the amended and restated bylaws and (ii) to declare that any director nomination or other business shall not be made or transacted at the meeting if it was not made or proposed in accordance with such procedures; and
- •unless otherwise required by law, any director nomination or other business shall not be made or transacted if the stockholder (or a qualified representative of the stockholder) does not appear at the meeting to present the director nominee or other proposed business.

Other revisions set forth in the amended and restated bylaws include: (i) the board of directors can fix separate record dates for determining stockholders entitled to receive notice of a stockholder meeting and for determining stockholders entitled to vote at the meeting; (ii) we may hold a stockholder meeting by means of remote communications; (iii) any stockholder seeking to have the stockholders authorize or take corporate action by written consent shall, by written notice to the secretary of the Company, request that the board of directors fix a record date and the board of directors shall adopt a resolution fixing the record date in all events within ten calendar days after a request is received; (iv) a written consent of stockholders shall not be effective unless a written consent signed by a sufficient number of stockholders to take such action is received by us within 60 calendar days of the earliest dated written consent received; (v) the authorized size of the board of directors shall not be set forth in the amended and restated bylaws as required in our previous bylaws but shall be determined by the board of directors by board resolution from time to time; (vi) the board of directors has the exclusive power to fill any vacancies and newly created directorships resulting from any increase in the authorized number of directors and the stockholders shall not, as they did in the preceding bylaws, have the power to fill such vacancies; and (vii) the amended and restated bylaws may be amended by either the board of directors or the affirmative vote of at least 66 2/3% of the voting power of our outstanding shares of capital stock, which percentage is an increase from the simple majority required by the preceding bylaws.

On November 28, 2011, we announced that the independent Data Monitoring Committee (DMC) for the Phase III HEAT study, a multinational, double-blind, placebo-controlled, pivotal study of ThermoDox® in combination with radio frequency ablation (RFA) for hepatocellular carcinoma (HCC) or primary liver cancer, completed a planned interim analysis for safety, efficacy and futility and unanimously recommended that the Phase III HEAT study continue to its final analysis as planned. The DMC evaluated data from 613 patients in its review, which was conducted following the realization of 219 progression-free survival (PFS) events within the study population. A total review of 380 events of progression is required to reach the planned final analysis of the study. We also announced that the DMC, in its review, followed a statistical boundary determined by us using the Lan DeMets implementation of the O'Brien-Fleming spending function. This approach allows us to conduct additional interim efficacy analyses prior to final data read-out at 380 PFS events with no increased risk of statistical penalty. The additional analyses may allow for earlier stopping of the study although we can not guarantee such a result. Additionally, based on its internally modeled estimates of PFS events, we reconfirmed that 380 PFS events are projected to occur in late 2012.

On December 6, 2011, we completed the issuance and sale of 6,486,488 shares of our common stock and warrants to purchase up to 3,243,244 shares of common stock to the selling stockholders named in this prospectus, including institutional investors as well as two directors. The common stock and warrants were sold in units at a price of \$2.3125, with each unit consisting of one share of common stock and a warrant to purchase 0.5 shares of common stock. The warrants were exercisable immediately at an exercise price of \$2.36 per share of common stock and expire five years from the date of issuance. The Company received gross proceeds from the offering of approximately \$15.0 million, before deducting placement agent fees and offering expenses. In connection with the issuance and sale of the units, the Company entered into a registration rights agreement with the investors that requires the Company to file a registration statement with the Securities and Exchange Commission (SEC) covering the resale by the investors of the common stock and the shares of common stock issuable upon exercise of the warrants within 30 days of the closing of the private placement transaction.

On December 19, 2011, we announced we had received written scientific advice from the European Medicines Agency (EMA) confirming that the Phase III HEAT study is acceptable as a basis for submission of a marketing authorization application (MAA). Based on feedback and guidance received from the EMA, we expect that future results demonstrating a convincing magnitude of improvement in progression-free survival, the study's primary endpoint, along with a favorable benefit-risk ratio in the Phase III HEAT study, would be sufficient as the primary basis for registration of ThermoDox® in Europe. The EMA also supported our manufacturing strategy and technology transfer protocols, which has the potential to allow us to establish multiple manufacturing sites to support commercialization of ThermoDox® outside the United States. However, as previously noted, drug research and development is an inherently uncertain process and we cannot assure that registration in Europe will be a success or will be completed within a reasonable timeframe, or at all.

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 this prospectus and should not be relied upon.

The Offering

The following is a brief summary of the offering. You should read the entire prospectus carefully, including "Risk Factors" beginning on page 6, and the information, including financial information, included in our filings with the Securities and Exchange Commission and incorporated in this document by reference.

Common stock to be offered by the selling

stockholders

9,729,732 shares

Use of proceeds We will not receive any proceeds from the sale of

the shares of common stock covered by this prospectus. However, we will receive the proceeds of any cash exercise of the warrants.

NASDAQ Capital Market Symbol

CLSN

Dividends We have never declared or paid any cash

dividends on our common stock and do not currently anticipate paying cash dividends in the

foreseeable future.

Risk Factors See "Risk Factors" beginning on page 6 of this

prospectus and other information included in this prospectus for a discussion of the factors you should consider before deciding to invest in

shares of our common stock.

RISK FACTORS

An investment 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 10 under Part I, Item IA of our Annual Report on Form 10-K for the fiscal year ended December 31, 2010, filed with the SEC on March 28, 2011, on page 21 of our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2011, filed with the SEC on May 12, 2011, on page 27 of our Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2011, filed with the Securities and Exchange Commission (SEC) on August 9, 2011, and on page 29 of our Quarterly Report on Form 10-Q for the fiscal quarter ended September 30, 2011, filed with the Securities and Exchange Commission (SEC) on November 10, 2011, as well as the other information in this prospectus, as amended or supplemented, and the information and documents incorporated by reference. If any of the identified risks 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 do not generate operating income and will require additional financing in the future. If additional capital is not available, we may have to curtail or cease operations.

Our business currently does not generate the cash necessary to finance our operations. Since our inception, our expenses have substantially exceeded our revenues, resulting in continuing losses and an accumulated deficit of \$101 million at December 31, 2010. We incurred a net loss of \$18.8 million for the year ended December 31, 2010 and a net loss of \$17.1 million for the nine months ended September 30, 2011. We presently have no product revenue. We may need to raise additional capital to fund research and development and to develop and commercialize our products. Our future capital needs depend on many factors, including the scope, duration and expenditures associated with our clinical trials, the outcome of potential licensing transactions, if any, competing technological developments and the regulatory approval process for our products.

We may seek to raise necessary funds through public or private equity offerings, debt financings or additional strategic alliances and licensing arrangements. We may not be able to obtain additional financing on terms favorable to us, if at all. General market conditions may make it very difficult for us to seek financing from the capital markets. We may be required to relinquish rights to our technologies or products, or grant licenses on terms that are not favorable to us, in order to raise additional funds through alliance, joint venture or licensing arrangements. If adequate funds are not available, we may have to delay, reduce or eliminate one or more of our research or development programs and reduce overall overhead expense. Such events could cause our independent registered public accounting firm to indicate that there may be substantial doubt about our ability to continue as a going concern in future periods.

If our products fail in clinical trials, we will be unable to obtain or maintain FDA and international regulatory approvals and will be unable to sell those products.

To obtain regulatory approvals from the U.S. Food and Drug Administration (FDA) and international 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 international regulatory agencies may require us to perform additional trials beyond those we planned. Such occurrences could result in significant delays and additional costs, and related clinical trials may be unsuccessful.

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

We have devoted our resources to developing a new generation of products but will not be able to market these products until we have completed clinical testing and obtain all necessary governmental approvals. In addition, our products are still in various stages of development and testing and cannot be marketed until we have completed clinical testing and obtained necessary governmental approval. Accordingly, our revenue sources are, and will remain, extremely limited until our products are clinically tested, approved by the FDA and successfully marketed. We cannot guarantee that any or all of our products will be successfully tested, approved by the FDA or marketed, successfully or otherwise, at any time in the foreseeable future or at all.

If we do not raise additional capital, we may not be able to complete the development, testing and commercialization of our product candidates.

As of September 30, 2011, we had approximately \$21.4 million in cash and short term investments. Subsequent to September 30, 2011, we completed an equity offering with gross proceeds totaling approximately \$15.0 million in the aggregate. To complete the development and commercialization of our products, we will need to raise substantial amounts of additional capital. We do not have any committed sources of financing and cannot offer any assurances that alternate funding will be available in a timely manner, on acceptable terms or at all.

In the event we cannot raise additional capital, we may be required to delay, scale back or eliminate certain aspects of our operations or attempt to obtain funds through unfavorable arrangements with partners or others that may force us to relinquish rights to certain of our technologies, products or potential markets or that could impose onerous financial or other terms. Furthermore, if we cannot fund our ongoing development and other operating requirements, particularly those associated with our obligations to conduct clinical trials under our licensing agreements, we will be in breach of these licensing agreements and could therefore lose our license rights, which could have material adverse effects on our business.

We may experience limitations on the utilization of our net operating loss carry forwards.

As of December 31, 2010, we had net operating loss carry forwards for income tax reporting purposes of approximately \$81.1 million, which represented a deferred tax asset of approximately \$31.3 million. These net operating loss carry forwards begin to expire in 2022. We continue to evaluate our net operating losses and currently maintain a valuation allowance equal to the deferred tax asset, thereby recognizing a net deferred tax asset of zero. Net operating losses are subject to the ownership change limitations of the Internal Revenue Code Section 382 (Section 382), under which if we have a greater than 50% ownership change (as defined by Section 382), our net operating losses may be limited for purposes of offsetting future taxable income. In connection with our recent financings, we are currently evaluating if a Sec 382 change in control has occurred. We cannot assure these net operating losses will not be subject to Section 382 limitations.

We have no internal sales or marketing capability and must enter into alliances with others possessing such capabilities to commercialize our products successfully.

We intend to market our products, if and when such products are approved for commercialization by the FDA, either directly or through other strategic alliances and distribution arrangements with third parties. There can be no assurance that we will be able to enter into third-party marketing or distribution arrangements on advantageous 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. There can be no assurance that, to the extent that we sell products directly or we enter into any commercialization arrangements with third parties, 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 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. If we were to breach these or other provisions of the license and research agreements, we could lose our ability to use the subject technology, as well as compensation for our efforts in developing or exploiting the technology. Any such loss of rights and access to technology could have a material adverse effect on our business.

Further, we cannot guarantee that any patent or other technology rights licensed to us by others will not be challenged or circumvented successfully by third parties, or that the rights granted will provide adequate protection. We are aware of published patent applications and issued patents belonging to others, and it is not clear whether any of these patents or applications, or other patent applications of which we may not have any knowledge, will require us to alter any of our potential products or processes, pay licensing fees to others or cease certain activities. 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 also 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 guarantee that these agreements will not be breached, that, even if not breached, that they are adequate to protect our trade secrets, that we will have adequate remedies for any breach, or that our trade secrets will not otherwise become known to, or will not be discovered independently by, competitors.

Our products could 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 are currently not involved in any material litigation involving patents, a third party patent holder could 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.

As of December 19, 2011, we had 20 full-time employees. 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 anticipate significantly increasing our personnel in the foreseeable future and therefore, expect to 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 prohibitively 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. At this time, the Company is unable to determine what, if any, affect the catastrophic events resulting from the March 11, 2011 earthquake and Tsunami in Japan will have on the conduct or timeframe of clinical trials for our Phase III HEAT study at sites in Japan. In addition, enrollment of additional patients at clinical sites in Japan for our Phase III HEAT study is currently on hold pending the DMC's ongoing review of safety and efficacy data in accordance with the PMDA in Japan and the DMC's charter. A failure to resume patient enrollment at clinical trial sites in Japan could have a material adverse affect on our financial condition as the resumption of patient enrollment is a condition to our receipt of an accelerated \$2 million development milestone payment under our agreement with Yakult and is a mandatory conversion event of our 8% redeemable convertible preferred stock.

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

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

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

Many states in which we do, or in the future, may do business, or in which our products may be sold, 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 health care 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 which legislative proposals, if any, will be adopted (or when) or what

actions federal, state, or private payors for health care treatment and services may take in response to any health care reform proposals or legislation. We cannot predict the effect health care 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. healthcare system.

The success of our products may be harmed if the government, private health insurers and other third-party payors 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 health care 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.

Our cancer treatment development projects using ThermoDox® plus RFA or microwave heating, are currently in clinical trials. Any or all of these projects 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 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, with material adverse consequences to our business.

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

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

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

There are many companies and other institutions engaged in research and development of various technologies for cancer treatment products that seek treatment outcomes similar to those that we are pursuing. We believe that the level of interest by others in investigating the potential of possible competitive treatments and alternative technologies will continue and may increase. Potential competitors engaged in all areas of cancer treatment research in the United States and other countries include, among others, major pharmaceutical, specialized technology companies, and universities and other research institutions. Most of our current and potential competitors have substantially greater financial, technical, human and other resources, and may also have far greater experience than do we, both in pre-clinical testing and human clinical trials of new products and in obtaining FDA and other regulatory approvals. One or more of these

companies or institutions could succeed in developing products or other technologies that are more effective than the products and technologies that we have been or are developing, or which would render our technology and products obsolete and non-competitive. Furthermore, if we are permitted to commence commercial sales of any of our products, we will also be competing, with respect to manufacturing efficiency and marketing, with companies having substantially greater resources and experience in these areas.

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

Our business exposes us to potential product liability risks inherent in the testing, manufacturing and marketing of human therapeutic products. We presently have product liability insurance limited to \$10 million per incident and \$10 million annually. If we were to be subject to a claim in excess of this coverage or to a claim not covered by our insurance and the claim succeeded, we would be required to pay the claim with our own limited resources, which could have a material adverse effect on our business. In addition, liability or alleged liability could harm the business by diverting the attention and resources of our management and by damaging our reputation.

RISKS RELATED TO OUR COMMON STOCK

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

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock. We cannot assure you that we will be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock or other securities convertible into or exchangeable for our common stock in future transactions may be higher or lower than the price per share in this offering. In addition, we have a significant number of securities convertible into, or allowing the purchase of, our common stock, including 11,598,617 shares of common stock issuable upon exercise of outstanding warrants as of December 19, 2011. As of that date, there were also options outstanding to purchase 3,180,177 shares of our common stock and 264,711 shares of common stock reserved for future issuance under our stock incentive plan. You will incur dilution upon exercise of any outstanding stock options or warrants. The issuance of additional shares as a result of any such exercise, or the subsequent sale of securities, could adversely affect the price of our common stock.

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 December 19, 2011, we had 33,176,213 shares of common stock outstanding, all of which shares, other than shares held by our directors and certain officers, were eligible for sale in the public market, subject in some cases to compliance with the requirements of Rule 144 promulgated under the Securities Act of 1933, as amended, including the volume limitations and manner of sale requirements. In addition, all of the shares of common stock issuable upon conversion of our preferred stock or exercise of warrants will be freely tradable without restriction or further registration upon issuance.

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. 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 prospects. It is impossible to assure you that the market price of our shares of common stock

will not fall in the future. 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 market 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.

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.

On April 6, 2011, we received notice from The NASDAQ Listing Qualifications Department that we were not in compliance with the minimum Market Value of Listed Securities (MVLS) requirement for continued listing on The NASDAQ Capital Market, as set forth in NASDAQ Listing Rule 5550(b)(2) (the Rule), which requires a listed company to maintain a minimum MVLS of \$35 million. On May 10, 2011, we received a letter from NASDAQ stating that our MVLS had been \$35 million or greater for the previous ten consecutive business days (from April 26, 2011 to May 9, 2011) and that we had regained compliance with the Rule.

We cannot guarantee that our MVLS will remain at or above \$35 million and if our MVLS again drops below \$35 million, the stock could become subject to delisting again. If our common stock is delisted, trading of the stock will most likely take place on an over-the-counter market established for unlisted securities, such as the Pink Sheets or the OTC Bulletin Board. An investor is likely to find it less convenient to sell, or to obtain accurate quotations in seeking to buy, our common stock on an over-the-counter market, and many investors may not buy or sell our common stock due to difficulty in accessing over-the-counter markets, or due to policies preventing them from trading in securities

not listed on a national exchange or other reasons. In addition, as a delisted security, our common stock would be subject to SEC rules regarding "penny stock," which impose additional disclosure requirements on broker-dealers. The regulations relating to penny stocks, coupled with the typically higher cost per trade to investors in penny stocks due to factors such as broker commissions generally representing a higher percentage of the price of a penny stock than of a higher priced stock, would further limit the ability and willingness of investors to trade in our common stock. For these reasons and others, delisting would adversely affect the liquidity, trading volume and price of our common stock, causing the value of an investment in us to decrease and having an adverse effect on our business, financial condition and results of operations, including our ability to attract and retain qualified executives and employees and to raise capital.

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

Adverse capital and credit market conditions could affect our ability to meet liquidity needs, as well as our access to capital and cost of capital. The capital and credit markets have been experiencing extreme volatility and disruption for more than 12 months. In recent months, the volatility and disruption have reached unprecedented levels and the markets have exerted downward pressure on availability of liquidity and credit capacity for certain issuers. For example, recently credit spreads have widened considerably. 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 stock historically has been thinly traded. Therefore, stockholders may not be able to sell their shares freely.

While our common stock is listed on The NASDAQ Capital Market, the volume of trading historically has been relatively light. There can be no assurance that our historically light trading volume, or any trading volume whatsoever, will be sustained in the future. Therefore, there can be no assurance that our stockholders will be able to sell their shares of our common stock at the time or at the price that they desire, or at all.

We have never paid dividends on our common stock and we 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 of 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. We also have implemented a stockholder rights plan and distributed to our stockholders one right per share of our common stock. When these rights become exercisable, each right entitles their holders to purchase one ten-thousandth (1/10,000) of a share of our Series C Junior Participating Preferred Stock at a price of \$66.90 per one ten-thousandth (1/10,000) share. If any person or group acquires more than 15% of our common stock, the holders of rights (other than the person or group crossing the 15% threshold) will be able to receive, upon the exercise of their rights and in lieu of the Series C Junior Participating Preferred Stock, the number of shares of our common stock (or the number of shares of stock of any company into which we are merged) having a value equal to twice the exercise price of their rights in exchange for the \$66.90 exercise price. Because these rights may substantially dilute stock ownership by a person or group seeking to take us over without the approval of our board of directors, our rights plan could make it more difficult for a person or group to take us over (or acquire significant ownership interest in us) without negotiating with our board of directors regarding such a transaction. 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.

DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements contained or incorporated by reference in this prospectus, as may be amended and supplemented, constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 and releases issued by the SEC and within the meaning of Section 27A of the Securities Act of 1933, as amended (Securities Act), and Section 21E of the Securities Exchange Act of 1934, as amended (Exchange Act). 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 or 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 cash resources, revenue, operating expense or other financial terms;

any statements regarding pending or future mergers or acquisitions;

any statements regarding approaches to medical treatment or possible actions by customers, suppliers, strategic partners, potential strategic partners, competitors and 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," "plan," "believe," "could," "intend," "predict," "may," "should," "will" and words of similar import regarding the Company's expectar 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 in 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 the Company at any particular point in time. We operate in a highly competitive, highly regulated and rapidly changing environment, and our business is in a state of evolution. Therefore, it is likely that 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 as described under the section entitled "Where You Can Find Additional Information," 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

The selling stockholders will receive all of the net proceeds from sales of the common stock sold pursuant to this prospectus. We will not receive any of the proceeds from the sale of shares of our common stock by the selling stockholders pursuant to this prospectus. A portion of the shares covered by this prospectus are issuable upon exercise of warrants to purchase our common stock. Upon any exercise of the warrants for cash, the selling stockholders would pay us the exercise price of the warrants. The cash exercise price of the warrants is \$2.36 per share of our common stock. Under certain conditions set forth in the warrants, the warrants are exercisable on a cashless basis. If any warrants are exercised on a cashless basis, we would not receive any cash payment from the selling stockholders upon any exercise of such warrants.

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.

Year ended December 31, 2011	High	Low	
First Quarter	\$ 2.97	\$ 2.18	
Second Quarter	\$ 3.37	\$ 2.16	
Third Quarter	\$ 4.23	\$ 2.50	
Fourth Quarter (through December 20, 2011)	\$ 3.67	\$ 1.81	
Year ended December 31, 2010	High	Low	
First Quarter	\$ 4.69	\$ 2.76	
Second Quarter	\$ 5.44	\$ 3.13	
Third Quarter	\$ 3.42	\$ 2.97	
Fourth Quarter	\$ 3.63	\$ 2.01	
Year ended December 31, 2009	High	Low	
First Quarter	\$ 3.60	\$ 2.05	
Second Quarter	\$ 4.85	\$ 3.00	
Third Quarter	\$ 5.18	\$ 3.25	
Fourth Quarter	\$ 3.54	\$ 2.74	

The reported last sale price of our common stock on The NASDAQ Capital Market on December 20, 2011 was \$1.81 per share.

As of December 20, 2011, there were approximately 11,000 holders of record of our common stock.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our common stock and do not currently anticipate paying cash dividends in the foreseeable future.

DESCRIPTION OF OUR CAPITAL STOCK

General

Our authorized capital stock consists of 75,000,000 shares of common stock, \$0.01 par value per share, and 100,000 shares of preferred stock, \$0.01 par value per share, of which 15,000 shares of Series C Junior Participating Preferred Stock were reserved for issuance under the Stockholder Rights Plan (described below). As of December 20, 2011, there were 33,176,213 shares of our common stock outstanding and no shares of preferred stock outstanding.

The following summary description of our capital stock is based on the applicable provisions of the Delaware General Corporation Law (DGCL) and on the provisions of our certificate of incorporation, as amended (certificate of incorporation), and our bylaws, as amended (bylaws). This information is qualified entirely by reference to the applicable provisions of the DGCL and our certificate of incorporation and bylaws. For information on how to obtain copies of our certificate of incorporation and bylaws, which are exhibits to the registration statement of which this prospectus is a part, see the section entitled "Where You Can Find Additional Information" in this prospectus.

Common Stock

Holders of common stock to be registered hereunder are entitled to one vote for each share held of record on all matters submitted to a vote of stockholders and do not have cumulative voting rights. Subject to any preferential rights of any outstanding preferred stock, holders of common stock are entitled to receive ratably such dividends, if any, as may be declared from time to time by our board of directors out of funds legally available therefor. In the event of a dissolution, liquidation or winding-up of the Company, holders of common stock are entitled to share ratably in all assets remaining after payment of liabilities and any preferential rights of any outstanding preferred stock.

Holders of common stock have no preemptive or conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to the common stock. All outstanding shares of common stock are fully paid and non-assessable. The rights, preferences and privileges of the holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock which may be designated and issued in the future.

Our board of directors is classified into three classes, designated as Class I, Class II and Class III, with each class to be elected for three year terms on a staggered basis. At each annual meeting of stockholders, the directors elected to succeed those whose terms are expiring succeed to the same class as the directors they replace and each such new director is elected for a term to expire at the third annual meeting of stockholders after his or her election and when his or her successor is duly elected and qualified.

Holders of common stock have rights under the Rights Agreement described below under the caption "Anti-Takeover Considerations and Special Provisions of Our Certificate of Incorporation, Our Bylaws and the Delaware General Corporation Law—Stockholder Rights Plan."

Preferred Stock

Pursuant to our certificate of incorporation, our board of directors has the authority, without further action by the stockholders (unless such stockholder action is required by applicable law or NASDAQ rules), to designate and issue shares of preferred stock in one or more series, to establish from time to time the number of shares to be included in each such series, to fix the designations, powers (including voting), privileges, preferences and relative participating, optional or other rights, if any, of the shares of each such series and the qualifications, limitations or restrictions thereof, and to increase or decrease the number of shares of any such series, but not below the number of shares of such series then outstanding.

We will fix the designations, powers (including voting), privileges, preferences and relative participating, optional or other rights, if any, of the preferred stock of each series, as well as the qualifications, limitations or restrictions thereof, in the certificate of designation relating to that series. The description in such certificate of designation relating to that series will include:

- the title and stated value;
- the number of shares we are offering;
- the liquidation preference per share;
- the purchase price;
- the dividend rate, period and payment date and method of calculation for dividends;

- whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;
- the procedures for any auction or remarketing, if any;
- the provisions for a sinking fund, if any;

- the provisions for redemption or repurchase, if applicable, and any restrictions on our ability to exercise those redemption and repurchase rights;
- whether the preferred stock will be convertible into or exchangeable for other securities, and, if applicable, the conversion price, or how it will be calculated, and the conversion period;
- voting rights, if any, of the preferred stock;
- preemptive rights, if any;
- restrictions on transfer, sale or other assignment, if any;
- liability as to further calls or to assessment by the Company, if any;
- a discussion of any material United States federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights if we liquidate, dissolve or wind up our affairs;
- any limitations on the issuance of any class or series of preferred stock ranking senior to or
 on a parity with the series of preferred stock as to dividend rights and rights if we liquidate,
 dissolve or wind up our affairs; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the preferred stock.

The DGCL provides that the holders of preferred stock will have the right to vote separately as a class (or, in some cases, as a series) on an amendment to our certificate of incorporation if the amendment would change the par value or, unless the certificate of incorporation provided otherwise, the number of authorized shares of the class or change the powers, preferences or special rights of the class or series so as to adversely affect the class or series, as the case may be. This right is in addition to any voting rights that may be provided for in the applicable certificate of designation.

Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of our common stock or other securities. Preferred stock could be issued quickly with terms designed to delay or prevent a change in control of our company or make removal of management more difficult. Additionally, the issuance of preferred stock may have the effect of decreasing the market price of our common stock.

Anti-Takeover Considerations and Special Provisions of Our Certificate of Incorporation, Our Bylaws and the Delaware General Corporation Law

Stockholder Rights Plan

On August 6, 2002, our board of directors declared a dividend distribution of one preferred share purchase right (Purchase Right), for each outstanding share of our common stock. The dividend was payable to the stockholders of record on August 6, 2002 (Record Date) and with respect to shares of common stock issued thereafter until the

Distribution Date (as defined below) and, in certain circumstances, with respect to shares of common stock issued after the Distribution Date. Except as set forth below, when it becomes exercisable, each Purchase Right entitles the registered holder to purchase from the Company one ten-thousandth (1 / 10,000) of a share of Series C Junior Participating Preferred Stock, par value \$0.01 per share, of the Company (Series C Preferred Stock) at a price of \$66.90 per one ten-thousandth (1 / 10,000) of a share of Series C Preferred Stock (Purchase Price), subject to adjustment. The description and terms of the Purchase Rights are set forth in a Rights Agreement between the Company and American Stock Transfer & Trust Company, as rights agent, dated as of August 15, 2002 (Effective Date), as amended on January 16, 2003 (collectively referred to herein as the Rights Agreement).

Initially, the Purchase Rights will be attached to all certificates representing shares of common stock outstanding as of the Record Date, and no separate certificates representing the Purchase Rights (Right Certificates) will be distributed. The Purchase Rights will separate from the common stock upon the earlier to occur of (A) a person or group of affiliated or associated persons having acquired beneficial ownership of fifteen percent (15%) or more of the outstanding shares of common stock or (B) ten (10) days (or such later date as our board of directors may determine) after the commencement of, or announcement of an intention to make, a tender offer or exchange offer the completion of which would result in a person or group of affiliated or associated persons becoming an Acquiring Person (as defined below) (in either case, the Distribution Date). A person or group whose acquisition of shares of common stock cause a distribution date pursuant to clause (A) above is an "Acquiring Person," with certain exceptions set forth in the Rights Agreement. The date on which a person or group is first publicly announced to have become such by the Company or such Acquiring Person or an earlier date on which a majority of the then-sitting members of our board of directors becomes aware of the existence of such Acquiring Person is referred to below and in the Rights Agreement as the "Stock Acquisition Date."

If any person becomes an Acquiring Person, each holder of a Purchase Right will thereafter have the right (the Flip-In Right) to receive, upon exercise, the number of shares of common stock (or, in certain circumstances, one ten-thousandth (1/10,000) of a share of Series C Preferred Stock) or other securities of the Company having a value (immediately before such triggering event) equal to two (2) times the exercise price of the Purchase Right. Notwithstanding the foregoing, after the Flip-In Right is triggered as described above, all Purchase Rights that are, or (under certain circumstances specified in the Rights Agreement) were, beneficially owned by any Acquiring Person or any affiliate or associate thereof will be null and void. Our board of directors has the option, at any time after any person becomes an Acquiring Person but before an Acquiring Person becomes the beneficial owner of fifty percent (50%) or more of the common stock, to exchange all or part of the then-exercisable Purchase Rights (excluding those that have become void, as described in the immediately preceding sentence) for shares of common stock, at a one-to-one exchange ratio, appropriately adjusted to reflect any stock split, stock dividend or similar transaction having occurred since the Effective Date.

If, at any time after the Stock Acquisition Date, (A) the Company consolidates or mergers with another person, (B) any person merges with and into the Company, with the Company being the surviving corporation and, in connection with such merger, all or part of the common stock is changed into or exchanged for stock or other securities of any other person (or of the Company) or cash or any other property, or (C) the Company sells or otherwise transfers, in one or more transactions, assets or earning power aggregating fifty percent (50%) or more of its consolidated assets or earning power to any other person, then each holder of a Purchase Right (except Purchase Rights which previously have been voided as set forth above) shall thereafter have the right (the Flip-Over Right) to receive, upon exercise, common shares of the acquiring company (or, in certain circumstances, its parent), having a value equal to two times the exercise price of the Purchase Right. The holder of a Right will continue to have the Flip-Over Right whether or not such holder exercises or surrenders the Flip-In Right.

Series C Preferred Stock purchasable upon exercise of the Purchase Rights will not be redeemable. Each share of Series C Preferred Stock will be entitled to ten thousand (10,000) votes per share (subject to customary antidilution provisions) on matters submitted to a vote of the shareholders. Each share of Series C Preferred Stock will be entitled to a minimum preferential quarterly dividend payment of \$100 per share but, if greater, will be entitled to a total dividend per share of ten thousand (10,000) times the dividend declared per share of common stock. In the event of liquidation, the holders of shares of the Series C Preferred Stock will be entitled to a minimum preferential liquidation payment per share in an amount equal to the greater of \$66.90 or ten thousand (10,000) times the payment made per share of common stock plus an amount equal to accrued and unpaid dividends and distributions thereon, whether or not declared, to the date of such payment. Finally, in the event of any merger, consolidation or other transaction in which shares of common stock are exchanged, each share of Series C Preferred Stock will be entitled to receive ten thousand (10,000) times the amount received per share of common stock. These rights are protected by customary antidilution provisions.

At any time before the earlier to occur of (A) a person becoming an Acquiring Person or (B) the expiration of the Rights, and under certain other circumstances, the Company may redeem the Purchase Rights in whole, but not in part, at a price of \$0.01 per Purchase Right, i.e., the redemption price. The Purchase Rights are not exercisable until the Distribution Date and will expire on August 15, 2012, unless earlier redeemed.

Certificate of Incorporation and Bylaws

A number of provisions of our certificate of incorporation and our bylaws concern matters of corporate governance and the rights of our stockholders. Provisions that grant our board of directors the ability to issue shares of preferred stock and to set the voting rights, preferences and other terms thereof may discourage takeover attempts that are not first approved by our board of directors, including takeovers that may be considered by some stockholders to be in their best interests, such as those attempts that might result in a premium over the market price for the shares held by stockholders. Certain provisions could delay or impede the removal of incumbent directors even if such removal

would be beneficial to our stockholders, such as the classification of our board of directors and the lack of cumulative voting. Since our board of directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing stockholders or another party to effect a change in management.

These provisions may have the effect of deterring hostile takeovers or delaying changes in our control or in our management. These provisions are intended to enhance the likelihood of continued stability in the composition of our board of directors and in the policies they implement, and to discourage certain types of transactions that may involve an actual or threatened change of our control. These provisions are designed to reduce our vulnerability to an unsolicited acquisition proposal. The provisions also are intended to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and, as a consequence, they also may inhibit fluctuations in the market price of our shares that could result from actual or rumored takeover attempts.

These provisions also could discourage or make more difficult a merger, tender offer or proxy contest, even if they could be favorable to the interests of stockholders, and could potentially depress the market price of our common stock. Our board of directors believes that these provisions are appropriate to protect our interests and the interests of our stockholders.

Classification of Board; No Cumulative Voting. Our certificate of incorporation and bylaws provide for our board of directors to be divided into three classes, with staggered three-year terms. Only one class of directors is elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms. Because our stockholders do not have cumulative voting rights, our stockholders representing a majority of the shares of common stock outstanding will be able to elect all of our directors due to be elected at each annual meeting of our stockholders.

Meetings of and Actions by Stockholders. Our bylaws provide that annual meetings of our stockholders may take place at the time and place designated by our board of directors. A special meeting of our stockholders may be called at any time by our board of directors, the chairman of our board of directors or the president. Our bylaws provide that (i) the board of directors can fix separate record dates for determining stockholders entitled to receive notice of a stockholder meeting and for determining stockholders entitled to vote at the meeting; (ii) we may hold a stockholder meeting by means of remote communications; (iii) any stockholder seeking to have the stockholders authorize or take corporate action by written consent shall, by written notice to the secretary of the Company, request that the board of directors fix a record date and the board of directors shall adopt a resolution fixing the record date in all events within ten calendar days after a request is received; and (iv) a written consent of stockholders shall not be effective unless a written consent signed by a sufficient number of stockholders to take such action is received by us within 60 calendar days of the earliest dated written consent received.

Advance Notice Requirements for Stockholder Proposals and Director Nominations. Our bylaws provide that stockholders seeking to bring business before an annual meeting of stockholders or to nominate candidates for election as directors at an annual meeting of stockholders must provide timely notice in writing. To be timely, a stockholder's notice must be delivered to, or mailed and received by, the secretary of the Company at our principal executive offices not later the close of business on the 90th calendar day, nor earlier than the close of business on the 120th calendar day in advance of the date specified in the Company's proxy statement released to stockholders in connection with the previous year's annual meeting of stockholders. If the date of the annual meeting is more than 30 calendar days after such anniversary date, notice by the stockholder to be timely must be so not earlier than the close of business on the 120th calendar day in advance of such date of annual meeting and not later than the close of business on the later of the 90th calendar day in advance of such date of annual meeting or the 10th calendar day following the date on which public announcement of the date of the meeting is made. In no event shall the public announcement of an adjournment or postponement of an annual meeting commence a new time period (or extend any time period) for the giving of an advance notice by any stockholder. Any stockholder that proposes director nominations or other business must be a stockholder of record at the time the advance notice is delivered by such stockholder to us and entitled to vote at the meeting. Our bylaws also specify requirements as to the form and content of a stockholder's notice. These provisions may preclude stockholders from bringing matters before an annual meeting

of stockholders or from making nominations for the election of directors at an annual meeting of stockholders. Unless otherwise required by law, any director nomination or other business shall not be made or transacted if the stockholder (or a qualified representative of the stockholder) does not appear at the meeting to present the director nominee or other proposed business.

Filling of Board Vacancies. Our certificate of incorporation and our bylaws provide that the authorized size of the board of directors shall be determined by the board of directors by board resolution from time to time and that the board of directors has the exclusive power to fill any vacancies and newly created directorships resulting from any increase in the authorized number of directors and the stockholders do not have the power to fill such vacancies. Vacancies in our board of directors and newly created directorships resulting from any increase in the authorized number of directors on our board of directors may be filled by a majority of the directors remaining in office, even though that number may be less than a quorum of our board of directors, or by a sole remaining director. A director so elected to fill a vacancy shall serve for the remaining term of the predecessor he or she replaced and until his or her successor is elected and has qualified, or until his or her earlier resignation, removal or death.

Amendment of the Certificate of Incorporation. Our certificate of incorporation may be amended, altered, changed or repealed at a meeting of our stockholders entitled to vote thereon by the affirmative vote of a majority of the outstanding stock entitled to vote thereon and a majority of the outstanding stock of each class entitled to vote thereon as a class, in the manner prescribed by the DGCL.

Amendment of the Bylaws. Our bylaws may be altered, amended, changed, added-to or repealed by either the board of directors or the affirmative vote of at least 66 2/3% of the voting power of our outstanding shares of capital stock. The bylaws can only be amended if such amendment would not conflict with the certificate of incorporation or applicable law. Any bylaw made or altered by the requisite number of stockholders may be altered or repealed by our board of directors or by the requisite number of stockholders.

On November 27, 2011, our board of directors approved and adopted, effective immediately, the amended and restated bylaws of the Company.

The amended and restated bylaws added certain advance notice requirements for stockholders to propose director nominations or other business to be brought before an annual or special meeting of stockholders, which requirements include, among other things, the following:

- advance notice from a stockholder properly to bring business before an annual meeting shall be delivered to, or mailed and received by, the secretary of the Company at our principal executive offices, not later than the close of business on the 90th calendar day, nor earlier than the close of business on the 120th calendar day in advance of the date of the annual meeting;
- any stockholder that proposes director nominations or other business must be (i) a stockholder of record at the time the advance notice is delivered by such stockholder to us and (ii) entitled to vote at the meeting;
- no public announcement by us of an adjustment or postponement of an annual meeting shall commence or extend a new time period for the giving of the advance notice by any stockholder;
- in addition to the information specified in preceding Bylaws, a stockholder's advance notice with respect to any proposed business (other than nominations) shall set forth (i) the text of the proposal (including the text of any resolutions or amendments to the amended and restated bylaws proposed for consideration), (ii) any material interest in such business of such stockholder and the beneficial owners, if any, on whose behalf the proposal is made, (iii) a description of any agreement, arrangement or understanding with respect to the proposal between or among the stockholder and any beneficial owner, their affiliates and any others acting in concert, (iv) a description of any agreement, arrangement or understanding (including, among other things, derivative or short positions, profit interests, hedging transactions and borrowed or loaned shares) that has been entered into by, or on behalf of, the stockholder and any beneficial owner, (v) a representation that the stockholder is a stockholder of record entitled to vote at the meeting and intends to appear in person or by proxy at the meeting to propose such business, and (vi) a representation whether the stockholder or any beneficial owner intends or is part of a group which intends to deliver a proxy statement or form of proxy to stockholders required to approve or adopt the proposal or otherwise to solicit proxies or votes from stockholders in support of such proposal;
- a proposed director nominee may be required to furnish other information as we may reasonably require to determine the eligibility of the proposed nominee to serve as a director of the Company in addition to the information explicitly required in the amended and restated bylaws;
- the stockholder proposing director nominations or other business shall update and supplement the advance notice so that the information provided shall be true and correct as of the record date for the meeting and as of the date that is 10 business days prior to the meeting;
- the chairman of the meeting shall have the power and duty to (i) determine whether any director nomination or other business was made or proposed in accordance with the procedures set forth in the Amended and Restated Bylaws, and (ii) to declare that any director nomination or other business shall not be made or transacted at the meeting if it was not made or proposed in accordance with such procedures; and
- unless otherwise required by law, any director nomination or other business shall not be made or transacted if the stockholder (or a qualified representative of the stockholder) does not appear at the meeting to present the director nominee or other proposed business.

Other revisions set forth in the amended and restated bylaws include that (i) the board of directors can fix separate record dates for determining stockholders entitled to receive notice of a stockholder meeting and for determining stockholders entitled to vote at the meeting; (ii) we may hold a stockholder meeting by means of remote communications; (iii) any stockholder seeking to have the stockholders authorize or take corporate action by written consent shall, by written notice to the secretary of the Company, request that the board of directors to fix a record date and the board of directors shall adopt a resolution fixing the record date in all events within ten (10) calendar days after a request is received; (iv) a written consent of stockholders shall not be effective unless a written consent signed by a sufficient number of stockholders to take such action is received by the Company within sixty (60) calendar days of the earliest dated written consent received; (v) the authorized size of the board of directors shall not be set forth in the amended and restated bylaws as required in our previous bylaws but shall be determined by the board of directors by board resolution from time to time; (vi) the board of directors has the exclusive power to fill any vacancies and newly created directorships resulting from any increase in the authorized number of directors and the stockholders shall not, as they did in the preceding Bylaws, have the power to fill such vacancies; and (vii) the amended and restated bylaws may be amended by either the board of directors or the affirmative vote of at least sixty-six and two thirds percent (66 2/3%) of the voting power of our outstanding shares of capital stock, which percentage is an increase from the simple majority required by the preceding bylaws.

Section 203 of the Delaware General Corporation Law

We are subject to Section 203 of the Delaware General Corporation Law (Section 203), which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

before such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;

upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned (i) by persons who are directors and also officers and (ii) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 2/3 % of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines a business combination to include the following:

any merger or consolidation involving the corporation and the interested stockholder;

any sale, lease, transfer, pledge or other disposition of 10% or more of the assets of the corporation to or with the interested stockholder;

subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;

any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or

the receipt by the interested stockholder of the benefit of any loss, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, Section 203 defines an interested stockholder as an entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation or any entity or person affiliated with or controlling or controlled by such entity or person.

Transfer Agent and Registrar

The transfer agent for our common stock is American Stock Transfer & Trust Company located at 6201 15th Avenue, Brooklyn, New York 11219. Its telephone number is 800-937-5449.

NASDAQ Capital Market Listing

Our common stock is listed on The NASDAQ Capital Market under the symbol "CLSN."

SECURITY OWNERSHIP OF

CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information regarding the ownership of our common stock as of December 19, 2011 by (i) each director; (ii) each of our named executive officers named in the Summary Compensation Table appearing under the heading "Executive Compensation" in our Definitive Proxy Statement on Schedule 14A for our 2011 Annual Meeting of Stockholders, as filed with the SEC on April 29, 2011; (iii) all executive officers and directors of Celsion as a group; and (iv) all those known to us to be beneficial owners of more than five percent of our common stock.

NAME OF BENEFICIAL OWNER*	NUMBER OF SHARES OF COMMON STOCK BENEFICIALLY OWNED (1)	PERCENT OF SHARES OF COMMON STOCK OUTSTANDING (2)
Ayer Capital Partners		
Master Fund L.P.		
c/o Ayer Capital		
Management, LP		
230 California Street,		
Suite 600		
San Francisco,		
CA 94112 (3)	3,146,129	7.02 %
Max E. Link (4)	489,630	1.09%
Augustine Chow (5)	165,751	**
Frederick J. Fritz (6)	14,500	**
Robert W. Hooper (7)	97,814	**
Alberto Martinez (8)	151,625	**
Michael H. Tardugno	·	
(9)	764,953	1.71%
Nicholas Borys (10)	209,854	**
Gregory Weaver (11)	145,323	**
Jeffrey W. Church (12)	81,907	**
Robert A. Reed (13)	35,069	**
Directors and Executive		
Officers as a group (10		
persons) (14)	2,156,426	4.82%

^{*} The address of each of the individuals named is c/o Celsion Corporation, 997 Lenox Drive, Suite 100, Lawrenceville, NJ 08648.

^{**} Less than 1%.

- (1) Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities. Except as indicated by footnote, and subject to community property laws where applicable, the persons named in the table above have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them.
- (2) Based on 44,774,830 shares of common stock and warrants to purchase shares of common stock outstanding as of December 19, 2011.

- (3) Based on correspondence with Ayer Capital Management, LP dated December 16, 2011, Ayer Capital Partners Master Fund, L.P., Ayer Capital Partners Kestrel Fund, LP and Epworth -- Ayer Capital beneficially own 3,146,129 shares of common stock, including 1,565,672 shares of common stock purchased by Ayer Capital Partners Master Fund, L.P., Ayer Capital Partners Kestrel Fund, LP and Epworth -- Ayer Capital in the private placement that closed on December 6, 2011. The number of shares of common stock beneficially owned does not include warrants beneficially owned by Ayer Capital Partners Master Fund, L.P., Ayer Capital Partners Kestrel Fund, LP and Epworth -- Ayer Capital to purchase 2,527,548 shares of common stock, which warrants are not exercisable to the extent that, after giving effect to the exercise of such warrants, the holder would beneficially own in excess of 4.99% of the shares of common stock outstanding immediately after giving effect to such exercise and which warrants include warrants to purchase 782,836 shares of common stock purchased by Ayer Capital Partners Master Fund, L.P., Ayer Capital Partners Kestrel Fund, LP and Epworth -- Ayer Capital in the private placement that closed on December 6, 2011. Ayer Capital Management, LP, ACM Capital Partners, LLC, Jay Venkatesan, Ayer Capital Partners Master Fund, L.P. and Ayer Capital Partners, LLC filed a Schedule 13G with the SEC on June 7, 2011 reporting beneficial ownership of shares of our common stock. Ayer Capital Management, LP, ACM Capital Partners, LLC, Jay Venkatesan and Ayer Capital Partners, LLC may be considered the beneficial owner of any securities deemed to be beneficially owned by Ayer Capital Partners Master Fund, L.P.
- (4) Includes 228,605 shares of common stock underlying options and warrants currently exercisable or exercisable within 60 days of December 19, 2011.
 - (5) Includes 131,209 shares of common stock underlying options and warrants currently exercisable or exercisable within 60 days of December 19, 2011.
 - (6) Includes 5,000 shares of common stock and warrants to purchase 2,500 shares of common stock purchased by Mr. Fritz in the private placement that closed on December 6, 2011.
 - (7) Includes 40,907 shares of common stock underlying options and warrants currently exercisable or exercisable within 60 days of December 19, 2011.
 - (8) Includes (i) 5,000 shares of common stock and warrants to purchase 2,500 shares of common stock purchased by Dr. Martinez in the private placement that closed on December 6, 2011and (ii) 69,125 shares of common stock underlying options and warrants currently exercisable or exercisable within 60 days of December 19, 2011.
 - (9) Includes 598,937 shares of common stock underlying options and warrants currently exercisable or exercisable within 60 days of December 19, 2011.
 - (10) Includes 174,167 shares of common stock underlying options and warrants currently exercisable or exercisable within 60 days of December 19, 2011.

(11)

- Includes 116,687 shares of common stock underlying options and warrants currently exercisable or exercisable within 60 days of December 19, 2011.
- (12) Includes 56,787 shares of common stock underlying options and warrants currently exercisable or exercisable within 60 days of December 19, 2011.
- (13) Includes 26,667 shares of common stock underlying options and warrants currently exercisable or exercisable within 60 days of December 19, 2011.
- (14) Includes only directors and executive officers as of December 15, 2011. Includes (i) 10,000 shares of common stock and warrants to purchase 5,000 shares of common stock purchased, in the aggregate, by Frederick J. Fritz and Alberto Martinez in the private placement that closed on December 6, 2011 and (ii) 1,433,091 shares of common stock underlying options and warrants currently exercisable or exercisable within 60 days of December 19, 2011.

SELLING STOCKHOLDERS

On December 6, 2011, we issued in a private placement to the selling stockholders an aggregate of (i) 6,486,488 shares of common stock and (ii) warrants to purchase up to 3,243,244 shares of common stock. Each of the warrants is exercisable at an exercise price of \$2.36 per share of common stock. Pursuant to the registration rights agreement we entered in relation to the private placement, we agreed to file a registration statement, of which this prospectus is a part, with the Securities and Exchange Commission (SEC) to register the sale or other disposition of the shares of our common stock we issued and any common stock issued as a result of the exercise of the warrants, and to use our commercially reasonable efforts to keep the registration statement continuously effective for a period that will terminate upon the earlier of (i) December 1, 2012, (ii) the date on which all securities covered by the registration statement of which this prospectus is a part, as such registration statement may be amended from time to time, have been sold, and (iii) the date on which all securities covered by such registration statement may be sold without restriction pursuant to Rule 144 promulgated under the Securities Act of 1933, as amended. Certain of the selling stockholders have a position, office or material relationship with us. Each such material relationship is described in the table and footnotes below.

The following table sets forth:

the name of each of the selling stockholders;

the number of shares of our common stock owned by each such selling stockholder prior to this offering;

the percentage (if one percent or more) of common stock owned by each such selling stockholder prior to this offering;

the number of shares of our common stock which may be sold or otherwise disposed of pursuant to this prospectus;

the number of shares of our common stock to be owned upon completion of this offering, assuming all such shares are sold;

the percentage (if one percent or more) of common stock owned by each such selling stockholder after this offering, assuming all such shares are sold; and

if applicable, a description of the material relationship such selling stockholder has with us.

This table is prepared based on information supplied to us by the selling stockholders, as further described in the footnotes to the table. As used in this prospectus, the term "selling stockholder" includes each of the selling stockholders listed below, and any donees, pledges, transferees or other successors in interest selling shares received after the date of this prospectus from a selling stockholder as a gift, pledge or other transfer. The number of shares in the column "Number of Shares Being Offered" represents all of the shares that a selling stockholder may sell or otherwise dispose of under this prospectus. A selling stockholder may sell or otherwise dispose of some, all or none of such selling stockholder's shares. We do not know how long the selling stockholders will hold the shares before selling or otherwise disposing of them, and we currently have no agreements, arrangements or understandings with the selling stockholders regarding the sale or disposition of any of the shares. For the purposes of the table below, we assume that the selling shareholders will sell all shares of common stock covered by this prospectus.

Except as described below, the selling shareholders have sole voting and investment power over the shares of common stock listed in the table.

Beneficial ownership is determined in accordance with Rule 13d-3(d) promulgated by the SEC under the Securities Exchange Act of 1934, as amended. The percentage of shares beneficially owned prior to the offering is based on 44,774,830 shares of common stock and warrants to purchase shares of common stock outstanding as of December 19, 2011.

Number of Shares of Common Stock Owned Prior to Offering (1)			Number of Shares of Common Stock Owned After Offering (1)		
Name of Selling Stockholder	Number	Percent	Number of Shares Being Offered	Number	Percent
Ayer Capital Partners Master Fund, L.P. (3) c/o Ayer Capital Management, LP 230 California Street, Suite 600 San Francisco, CA 94111	5,195,053 (4)(5)	11.60%	2,151,234 (5)	3,044,040	6.80%
Ayer Capital Partners Kestrel Fund, LP (6) c/o Ayer Capital Management, LP 230 California Street, Suite 600 San Francisco, CA 94111	124,606 (7)(8)	*	51,405 (8)	73,201	*
Epworth Ayer Capital (9) c/o Ayer Capital Management, LP 230 California Street, Suite 600 San Francisco, CA 94111	353,797 (10)(11)	*	145,869 (11)	207,928	*
Caduceus Capital Master Fund Limited c/o OrbiMed Advisors LLC 767 Third Avenue, 30th Floor	742,500 (12)	1.66%	742,500 (12)		*

New York, NY 10017				
Caduceus Capital II, L.P. c/o OrbiMed Advisors LLC 767 Third Avenue, 30th Floor New York, NY 10017	742,500 (13)	1.66%	742,500 (13)	 *
UBS Eucalyptus Fund, L.L.C. c/o OrbiMed Advisors LLC 767 Third Avenue, 30th Floor New York, NY 10017	411,000 (14)	*	411,000 (14)	 *
PW Eucalyptus Fund, Ltd. c/o OrbiMed Advisors LLC 767 Third Avenue, 30th Floor New York, NY 10017	29,271 (15)	*	29,271 (15)	 *
Summer Street Life Sciences Hedge Fund Investors, LLC c/o OrbiMed Advisors LLC 767 Third Avenue, 30th Floor New York, NY 10017	345,000 (16)	*	345,000 (16)	 *

Deerfield Special Situations Fund, LP 780 Third Avenue, 37th Floor New York, NY 10017	370,849 (17)(18)	*	274,380 (18)		*	
Deerfield Special Situations Fund International Limited 780 Third Avenue, 37th Floor	(17)(16)		(16)			
New York, NY 10017	525,158 (19)(20)	*	374,271 (20)		*	
Oliveira Capital, LLC 18 Fieldstone Court New York,			648,651			
NY 10956	648,651 (21)	1.45%	(21)		*	
Sabby Volatility Warrant Master Fund, Ltd. c/o Sabby Management, LLC 10 Mountainview Road Suite 205 Upper Saddle River, NJ 07458	648,651 (22)	1.45%	648,651 (22)		*	
Perceptive Life Sciences Master Fund Ltd. 499 Park Avenue,	1 (50 000		1 (50 000			
New York, NY 10022	1,650,000 (23)	3.68%	1,650,000 (23)		*	
Quogue Capital LLC 50 West 57th Street, 15th Floor	1,500,000		1,500,000			
New York, NY 10019	(24)	3.35%	(24)		*	
Frederick J. Fritz (25) c/o Celsion Corporation 997 Lenox Drive, Suite 100	14,500 (26)	*	7,500 (26)	7,000	*	

Lawrenceville, NJ 08648

Alberto Martinez (27) c/o Celsion Corporation 997 Lenox Drive, Suite 100

Lawrenceville, 151,625

NJ 08648 (28)(29) * 7,500 (29) 144,125 *

- * Represents beneficial ownership of less than one percent of the outstanding shares of our common stock.
- (1) Includes shares of common stock issuable upon exercise of warrants. For the purposes hereof, we assume the issuance of all shares issuable upon exercise of warrants.
- (2) Intentionally left blank.
- (3) Ayer Capital Management, LP, ACM Capital Partners, LLC, Jay Venkatesan, Ayer Capital Partners Master Fund, L.P. and Ayer Capital Partners, LLC filed a Schedule 13G with the SEC on June 7, 2011 reporting beneficial ownership of shares of our common stock. Ayer Capital Management, LP, ACM Capital Partners, LLC, Jay Venkatesan and Ayer Capital Partners, LLC may be considered the beneficial owner of any securities deemed to be beneficially owned by Ayer Capital Partners Master Fund, L.P.

- (4) Based on correspondence with Ayer Capital Partners Master Fund, L.P. dated December 16, 2011 and includes warrants to purchase 2,312,131 shares of common stock which are not exercisable to the extent that, after giving effect to the exercise of such warrants, the holder would beneficially own in excess of 4.99% of the shares of common stock outstanding immediately after giving effect to such exercise.
- (5) Includes 1,434,156 shares of common stock and warrants to purchase 717,078 shares of common stock purchased by Ayer Capital Partners Master Fund, L.P. in the private placement that closed on December 6, 2011.
- (6) Ayer Capital Management, LP, ACM Capital Partners, LLC, Jay Venkatesan, Ayer Capital Partners Master Fund, L.P. and Ayer Capital Partners, LLC filed a Schedule 13G with the SEC on June 7, 2011 reporting beneficial ownership of shares of our common stock. Ayer Capital Management, LP, ACM Capital Partners, LLC, Jay Venkatesan, Ayer Capital Partners Master Fund, L.P. and Ayer Capital Partners, LLC may be considered the beneficial owner of any securities deemed to be beneficially owned by Ayer Capital Partners Kestrel Fund, L.P.
- (7) Based on correspondence with Ayer Capital Partners Kestrel Fund, L.P. dated December 16, 2011 and includes warrants to purchase 124,606 shares of common stock which are not exercisable to the extent that, after giving effect to the exercise of such warrants, the holder would beneficially own in excess of 4.99% of the shares of common stock outstanding immediately after giving effect to such exercise.
- (8) Includes 34,270 shares of common stock and warrants to purchase 17,135 shares of common stock purchased by Ayer Capital Partners Kestrel Fund, LP in the private placement that closed on December 6, 2011.
- (9) Ayer Capital Management, LP, ACM Capital Partners, LLC, Jay Venkatesan, Ayer Capital Partners Master Fund, L.P. and Ayer Capital Partners, LLC filed a Schedule 13G with the SEC on June 7, 2011 reporting beneficial ownership of shares of our common stock. Ayer Capital Management, LP, ACM Capital Partners, LLC, Jay Venkatesan, Ayer Capital Partners Master Fund, L.P. and Ayer Capital Partners, LLC may be considered the beneficial owner of any securities deemed to be beneficially owned by Epworth -- Ayer Capital.
- (10) Based on correspondence with Epworth -- Ayer Capital dated December 16, 2011 and includes warrants to purchase 159,486 shares of common stock which are not exercisable to the extent that, after giving effect to the exercise of such warrants, the holder would beneficially own in excess of 4.99% of the shares of common stock outstanding immediately after giving effect to such exercise.
- (11) Includes 97,246 shares of common stock and warrants to purchase 48,623 shares of common stock purchased by Epworth -- Ayer Capital in the private placement that closed on December 6, 2011.
- (12) Includes 495,000 shares of common stock and warrants to purchase 247,500 shares of common stock purchased by Caduceus Capital Master Fund Limited in the private

- placement that closed on December 6, 2011.
- (13) Includes 495,000 shares of common stock and warrants to purchase 247,500 shares of common stock purchased by Caduceus Capital II, L.P. in the private placement that closed on December 6, 2011.
- (14) Includes 274,000 shares of common stock and warrants to purchase 137,000 shares of common stock purchased by UBS Eucalyptus Fund, L.L.C. in the private placement that closed on December 6, 2011.
- (15) Includes 19,514 shares of common stock and warrants to purchase 9,757 shares of common stock purchased by PW Eucalyptus Fund, Ltd. in the private placement that closed on December 6, 2011.
- (16) Includes 230,000 shares of common stock and warrants to purchase 115,000 shares of common stock purchased by Summer Street Life Sciences Hedge Fund Investors LLC in the private placement that closed on December 6, 2011.
- (17) Based on correspondence with Deerfield Special Situations Fund, LP dated December 20, 2011 and includes warrants to purchase shares of common stock.
- (18) Includes 182,920 shares of common stock and warrants to purchase 91,460 shares of common stock purchased by Deerfield Special Situations Fund L.P. in the private placement that closed on December 6, 2011.
- (19) Based on correspondence with Deerfield Special Situations Fund International, Limited dated December 20, 2011 and includes warrants to purchase shares of common stock.
- (20) Includes 249,514 shares of common stock and warrants to purchase 124,757 shares of common stock purchased by Deerfield Special Situations Fund International, Limited in the private placement that closed on December 6, 2011.
- (21) Includes 432,434 shares of common stock and warrants to purchase 216,217 shares of common stock purchased by Oliveira Capital, LLC in the private placement that closed on December 6, 2011.
- (22) Includes 432,434 shares of common stock and warrants to purchase 216,217 shares of common stock purchased by Sabby Volitility Warrant Master Fund, Ltd. in the private placement that closed on December 6, 2011.
- (23) Includes 1,100,000 shares of common stock and warrants to purchase 550,000 shares of common stock purchased by Perceptive Life Sciences Master Fund, Ltd. in the private placement that closed on December 6, 2011.
- (24) Includes 1,000,000 shares of common stock and warrants to purchase 500,000 shares of common stock purchased by Quogue Capital LLC in the private placement that closed on December 6, 2011.
- (25) Frederick J. Fritz has served as a director of the Company since July 2011.

(26)

Includes 5,000 shares of common stock and warrants to purchase 2,500 shares of common stock purchased by Frederick J. Fritz in the private placement that closed on December 6, 2011.

- (27) Alberto Martinez has served as a director of the Company since December 2010.
- (28) Includes 69,125 shares of common stock underlying options and warrants currently exercisable or exercisable within 60 days of December 19, 2011.
- (29) Includes 5,000 shares of common stock and warrants to purchase 2,500 shares of common stock purchased by Alberto Martinez in the private placement that closed on December 6, 2011.

Information about any other selling stockholders will be included in prospectus supplements or post-effective amendments, if required. Information about the selling stockholders may change from time to time. Any changed information with respect to which we are given notice will be included in prospectus supplements.

PLAN OF DISTRIBUTION

The selling stockholders, which as used herein includes donees, pledgees, transferees or other successors-in-interest selling shares of common stock or interests in shares of common stock received after the date of this prospectus from a selling stockholder as a gift, pledge, partnership distribution or other transfer, may, from time to time, sell, transfer or otherwise dispose of any or all of their shares of common stock or interests in shares of common stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. These dispositions may be at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices.

The selling stockholders may use any one or more of the following methods when disposing of shares or interests therein:

•	ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
	block trades in which the broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
	purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
	an exchange or over-the-counter distribution in accordance with the rules of the applicable exchange or other market;
	privately negotiated transactions;
	short sales effected after the date the registration statement of which this prospectus is a part is declared effective by the SEC;
	through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
	broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
	a combination of any such methods of sale; and
	any other method permitted by applicable law.

The selling stockholders may, from time to time, pledge or grant a security interest in some or all of the shares of common stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock, from time to time, under this prospectus, or under an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act of 1933, as amended (Securities Act), amending the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholders also may transfer the shares of common stock in other circumstances, in which case the transferees, pledgees or other successors in interest

will be the selling beneficial owners for purposes of this prospectus.

In connection with the sale of our common stock or interests therein, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The selling stockholders may also sell shares of our common stock short and deliver these securities to close out their short positions, or loan or pledge the common stock to broker-dealers that in turn may sell these securities. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus, as supplemented or amended to reflect such transaction.

The aggregate proceeds to the selling stockholders from the sale of the common stock offered by them will be the purchase price of the common stock less discounts or commissions, if any. Each of the selling stockholders reserves the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of common stock to be made directly or through agents. We will not receive any of the proceeds from this offering. Upon any exercise of the warrants by payment of cash, however, we will receive the exercise price of the warrants.

The selling stockholders also may resell all or a portion of the shares in open market transactions in reliance upon Rule 144 under the Securities Act of 1933, provided that they meet the criteria and conform to the requirements of that rule.

The selling stockholders and any underwriters, broker-dealers or agents that participate in the sale of the common stock or interests therein may be "underwriters" within the meaning of Section 2(11) of the Securities Act. Any discounts, commissions, concessions or profit they earn on any resale of the shares may be underwriting discounts and commissions under the Securities Act. Selling stockholders who are "underwriters" within the meaning of Section 2(11) of the Securities Act will be subject to the prospectus delivery requirements of the Securities Act.

To the extent required, the shares of our common stock to be sold, the names of the selling stockholders, the respective purchase prices and public offering prices, the names of any agents, dealer or underwriter, any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes this prospectus.

In order to comply with the securities laws of some states, if applicable, the common stock may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states the common stock may not be sold unless it has been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

We have advised the selling stockholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares in the market and to the activities of the selling stockholders and their affiliates. In addition, to the extent applicable we will make copies of this prospectus, as it may be supplemented or amended from time to time, available to the selling stockholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling stockholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

We have agreed to indemnify the selling stockholders against liabilities, including liabilities under the Securities Act and state securities laws, relating to the registration of the shares offered by this prospectus.

We have agreed with the selling stockholders to keep the registration statement of which this prospectus constitutes a part effective until the earlier of (1) such time as all of the shares covered by this prospectus have been disposed of pursuant to and in accordance with the registration statement or (2) the date on which the shares may be sold without restriction pursuant to Rule 144 of the Securities Act.

LEGAL MATTERS

The validity of the securities being offered hereby will be passed upon by O'Melveny & Myers LLP of 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 for the year ended December 31, 2010, as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. 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 requirements of the Exchange Act. In accordance with the Exchange Act, we file annual, quarterly and current reports, proxy statements and other information with the 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 is part of a registration statement that we filed with the SEC. This prospectus omits 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 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.

INFORMATION INCORPORATED BY REFERENCE

SEC rules allow us to "incorporate by reference" into this 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 is considered to be part of this prospectus. These documents may include Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements. You should read the information incorporated by reference because it is an important part of this prospectus.

This prospectus incorporates by reference the documents listed below, 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 for the fiscal year ended December 31, 2010 filed with the SEC on March 28, 2011;

our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2011 filed with the SEC on May 12, 2011, our Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2011 filed with the SEC on August 9, 2011 and our Quarterly Report on Form 10-Q for the fiscal quarter ended September 30, 2011 filed with the SEC on November 10, 2011;

our Current Reports on Form 8-K filed with the SEC on January 18, 2011, March 22, 2011, April 12, 2011, May 11, 2011, May 27, 2011, June 2, 2011, July 1, 2011, July 6, 2011, July 11, 2011, July 12, 2011, July 25, 2011, July 26, 2011, December 1, 2011, December 2, 2011 and December 6, 2011;

our proxy statement relating to our annual meeting of stockholders filed with the SEC on April 29, 2011; 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 to the extent that a statement contained in this prospectus or any 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.

We will provide without charge to each person, including any beneficial owners, to whom this prospectus 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 but not delivered with this prospectus. 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: Gregory Weaver
Senior Vice President & CFO

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution

The following table sets forth the estimated costs and expenses payable by the registrant in connection with the offering of the common stock being registered. All the amounts shown are estimates, except for the SEC registration fee.

	Amount to be Paid	
SEC registration fee	\$	2,215
Legal fees and expenses	·	35,000
Accounting fees and expenses		1,500
Printing and miscellaneous expenses		3,000
	\$	41,715

Item 14. Indemnification of Directors and Officers

The registrant is organized under the laws of the State of Delaware. Our certificate of incorporation provides that we shall indemnify our current and former directors and officers, and may indemnify our current and former employees and agents, against any and all liabilities and expenses incurred in connection with their services in those capacities to the maximum extent permitted by Delaware law.

The Delaware General Corporation Law (DGCL) provides that a Delaware corporation has the power generally to indemnify its current and former directors, officers, employees and other agents (Corporate Agents) against expenses and liabilities, including amounts paid in settlement, in connection with any proceeding involving such person by reason of such person being a Corporate Agent, other than a proceeding by or in the right of the corporation, if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal proceeding, such person had no reasonable cause to believe such person's conduct was unlawful.

In the case of an action brought by or in the right of the corporation, indemnification of a Corporate Agent is permitted if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the corporation. However, no indemnification is permitted in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation, unless and only to the extent that the court in which such proceeding was brought shall determine upon application that despite the adjudication of liability, but in view of all the circumstances of the case, such person is fairly and reasonably entitled to such indemnification.

To the extent that a Corporate Agent has been successful on the merits or otherwise in the defense of such proceeding, whether or not by or in the right of the corporation, or in the defense of any claim, issue or matter therein, the corporation is required to indemnify such person for expenses in connection therewith. Under the DGCL, the corporation may advance expenses incurred by a Corporate Agent in connection with a proceeding, provided that the

Corporate Agent undertakes to repay such amount if it shall ultimately be determined that such person is not entitled to indemnification. Our certificate of incorporation requires us to advance expenses to any person entitled to indemnification, provided that such person undertakes to repay the advancement if it is determined in a final judicial decision from which there is no appeal that such person is not entitled to indemnification.

The power to indemnify and advance the expenses under the DGCL does not exclude other rights to which a Corporate Agent may be entitled to under our certificate of incorporation, by laws, agreement, vote of stockholders or disinterested directors or otherwise.

Our certificate of incorporation permits us to secure insurance on behalf of our directors, officers, employees and agents for any expense, liability or loss incurred in such capacities, regardless of whether our certificate of incorporation or Delaware law would permit indemnification against such expense, liability or loss.

The purpose of these provisions is to assist us in retaining qualified individuals to serve as our directors, officers, employees and agents by limiting their exposure to personal liability for serving as such.

Item 15. Recent Sales of Unregistered Securities

December 6, 2011 Private Placement Offering

On December 6, 2011, we completed the issuance and sale of 6,486,488 shares of our common stock and warrants to purchase up to 3,243,244 shares of common stock to the selling stockholders named in this prospectus, including institutional investors as well as a director of the Company and an investor affiliated with another director of the Company in a private placement transaction. The common stock and warrants were sold in units at a price of \$2.3125, with each unit consisting of one share of common stock and a warrant to purchase 0.5 shares of common stock. The warrants were exercisable immediately at an exercise price of \$2.36 per share of common stock and expire five years from the date of issuance. The Company received gross proceeds from the offering of approximately \$15.0 million, before deducting placement agent fees and offering expenses. [Concurrent] with the issuance and sale of the units, the Company entered into a registration rights agreement with the investors that requires the Company to file a registration statement with the Securities and Exchange Commission (SEC) covering the resale by the investors of the common stock and the shares of common stock issuable upon exercise of the warrants within 30 days of the closing of the private placement transaction.

We intend to use the net proceeds from the sale of securities in the December 6, 2011 private placement offering for general corporate purposes, including the funding of the clinical development of our product pipeline of cancer drugs. Pending the application of the net proceeds, we intend to invest the net proceeds in short-term, investment grade, interest-bearing securities.

July 25, 2011 Private Placement Offering

On July 25, 2011, we completed the issuance and sale of 1,281,031 shares of our common stock and warrants to purchase up to 512,412 shares of common stock to the selling stockholders named in this prospectus, including institutional investors as well as a director of the Company and an investor affiliated with another director of the Company in a private placement transaction. The common stock and warrants were sold in units at a price of \$4.27, with each unit consisting of one share of common stock and a warrant to purchase 0.4 shares of common stock. The warrants were exercisable immediately at an exercise price of \$4.22 and expire five years from the date of issuance. The Company received gross proceeds from the offering of approximately \$5.5 million, before deducting placement agent fees and offering expenses. Concurrent with the issuance and sale of the units, the Company entered into a registration rights agreement with the investors that requires the Company to file a registration statement with the SEC covering the resale by the investors of the common stock and the shares of common stock issuable upon exercise of the warrants within 30 days of the closing of the private placement transaction.

We intend to use the net proceeds from the sale of securities in the July 25, 2011 private placement offering for general corporate purposes, including the funding of the clinical development of our product pipeline of cancer drugs. Pending the application of the net proceeds, we intend to invest the net proceeds in short-term, investment grade, interest-bearing securities.

June 2, 2011 Private Placement Offering

On June 2, 2011, we completed the issuance and sale of 3,218,612 shares of our common stock and warrants to purchase up to 3,218,612 shares of common stock to institutional investors as well as certain officers and directors of the Company in a private placement transaction. The common stock and warrants were sold in units, with each unit consisting of one share of common stock and a warrant to purchase one share of common stock. Units sold to unaffiliated institutional investors were sold at a negotiated purchase price of \$2.65 per unit and to officers and

directors at \$2.895 per unit, the latter representing the consolidated closing bid price per share of common stock plus a warrant premium of \$0.125 per unit. The warrants are exercisable on or after December 2, 2011 at an exercise price of \$2.77 and expire 78 months after the date of issuance. The Company received gross proceeds from the offering of approximately \$8.6 million, before deducting placement agent fees and offering expenses. Concurrent with the issuance and sale of the units, the Company entered into a registration rights agreement with the investors that required the Company to file a registration statement with the SEC covering the resale by the investors of the common stock and the shares of common stock issuable upon exercise of the warrants, which registration statement became effective on June 24, 2011.

We intend to use the net proceeds from the sale of securities in the June 2, 2011 private placement offering for general corporate purposes, including the funding of the clinical development of our product pipeline of cancer drugs. Pending the application of the net proceeds, we intend to invest the net proceeds in short-term, investment grade, interest-bearing securities.

Committed Equity Financing Facility

On June 17, 2010, the registrant entered into a common stock purchase agreement (Purchase Agreement) with Small Cap Biotech Value, LTD (SCBV), providing for a financing arrangement that is sometimes referred to as a committed equity line financing facility. The Purchase Agreement provided that, upon the terms and subject to the conditions set forth in the Purchase Agreement, SCBV was committed to purchase up to \$15.0 million shares of the registrant's common stock over the 24-month term of the Purchase Agreement under certain specified conditions and limitations, provided that in no event would the registrant sell under the Purchase Agreement more than 2,444,434 shares of common stock, which is equal to one share less than 20% of the registrant's outstanding shares of common stock on June 17, 2010, the closing date of the Purchase Agreement, less the number of shares of common stock the registrant issued to SCBV on the closing date as Commitment Shares described below. Furthermore, pursuant to the Purchase Agreement, in no event would SCBV purchase any shares of the registrant's common stock which, when aggregated with all other shares of the registrant's common stock then beneficially owned by SCBV, would result in the beneficial ownership by SCBV of more than 9.9% of the then outstanding shares of the registrant's common stock.

In partial consideration for SCBV's execution and delivery of the Purchase Agreement, the registrant issued to SCBV upon the execution and delivery of the Purchase Agreement 40,000 shares of its common stock (Commitment Shares) valued at \$3.4936 per share, the ten day volume weighted average price of our common stock on June 16, 2010. The issuance of the Commitment Shares, together with all other shares of common stock issuable to SCBV pursuant to the terms of the Purchase Agreement, was exempt from registration under the Securities Act of 1933, as amended (Securities Act), pursuant to the exemption for transactions by an issuer not involving any public offering under Section 4(2) and Rule 506 of Regulation D under the Securities Act.

Reedland Capital Partners, an Institutional Division of Financial West Group, member of FINRA/SIPC (Reedland), served as the registrant's placement agent in connection with the financing arrangement contemplated by the Purchase Agreement. The registrant agreed to pay Reedland, upon each sale of its common stock to SCBV under the Purchase Agreement, a fee equal to 1.0% of the aggregate dollar amount of common stock purchased by SCBV upon settlement of each such sale, for up to \$7,500,000 aggregate dollar amount of common stock purchased. Thereafter, Reedland's fee was reduced to 0.5% of the aggregate dollar amount of common stock purchased. The registrant agreed to indemnify and hold harmless Reedland against certain liabilities, including certain liabilities under the Securities Act.

The Purchase Agreement terminated automatically on the date on which SCBV purchased the entire commitment amount under the Purchase Agreement, which occurred during the second quarter of 2011.

Item 16. Exhibits and Financial Statement Schedules

Exhibits.

The following documents are included as exhibits to this report:

EXHIBIT NO.	DESCRIPTION
3.1	Amended and Restated Certificate of Incorporation of Celsion Corporation, incorporated herein by reference to Exhibit 3.1.1 to the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2004.
3.2	Certificate of Ownership and Merger of Celsion Corporation (a Maryland Corporation) into Celsion (Delaware) Corporation (inter

alia, changing the Company's name to Celsion Corporation from Celsion (Delaware) Corporation), incorporated herein by reference to Exhibit 3.1.3 to the Annual Report on Form 10-K of the Company for the year ended September 30, 2000.

- 3.3 Certificate of Designations of Series C Junior Participating Preferred Stock of Celsion Corporation, incorporated herein by reference to Exhibit 4.4 to the Form S-3 registration statement (File No. 333-100638) filed with the SEC on October 18, 2002.
- 3.4 Certificate of Amendment of the Certificate of Incorporation effective February 27, 2006, incorporated therein by reference to Exhibit 3.1 to the Current Report on Form 8-K of the Company filed with the SEC on March 1, 2006.
- 3.5 Certificate of Designation for 8% Series A Redeemable Convertible Preferred Stock of Celsion Corporation, incorporated herein by reference to Exhibit 3.1 to the Current Report on Form 8-K filed with the SEC on January 18, 2011.
- 3.6 Amended and Restated By-laws of Celsion Corporation, incorporated herein by reference to Exhibit 3.1 to the Current Report on Form 8-K of the Company filed with the SEC on December 14, 2007.
- 3.7 Amended and Restated Bylaws of Celsion Corporation, dated November 27, 2011, incorporated herein by reference to Exhibit 3.1 to the Current Report on Form 8-K of the Company filed with the SEC on December 1, 2011.
- 4.1 Form of Common Stock Certificate, par value \$0.01, incorporated herein by reference to Exhibit 4.1 to the Annual Report on Form 10-K of the Company for the year ended September 30, 2001.

4.2	Celsion Corporation and American Stock Transfer & Trust Company Rights Agreement, dated August 15, 2002, incorporated herein by reference to Exhibit 99.1 to the Current Report on Form 8-K filed with the Company on August 21, 2002.
4.3	Amendment, adopted January 16, 2003, to Rights Agreement between Celsion Corporation and American Stock Transfer & Trust Company, incorporated herein by reference to Exhibit 4.1 to the Quarterly Report on Form 10-Q for the quarter ended June 30, 2004.
4.4	Form of Common Stock Warrant, incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K filed with the SEC on September 28, 2009.
4.5	Registration Rights Agreement, dated June 17, 2010, by and between Celsion Corporation and Small Cap Biotech Value, Ltd., incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K filed with the SEC on June 18, 2010.
4.6	Form of 8% Series A Redeemable Convertible Preferred Stock Certificate incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K filed with the SEC on January 18, 2011.
4.7	Form of Common Stock Warrant incorporated herein by reference to Exhibit 4.2 to the Current Report on Form 8-K filed with the SEC on January 18, 2011.
4.8	Form of 8% Series A Redeemable Convertible Preferred Stock Warrant incorporated herein by reference to Exhibit 4.3 to the Current Report on Form 8-K filed with the SEC on January 18, 2011.
4.9	Form of Common Stock Warrant incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K filed with the SEC on June 2, 2011.
4.10	Form of Common Stock Purchase Warrant incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K filed with the SEC on July 6, 2011.
4.11	Form of Common Stock Purchase Warrant incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K filed with the SEC on July 25, 2011.
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June 29, 2010.

- 10.3 Form of Restricted Stock Agreement for Celsion Corporation 2004 Stock Incentive Plan, incorporated herein by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q for the quarter ended September 30, 2006.
- 10.4 Form of Stock Option Agreement for Celsion Corporation 2004 Stock Incentive Plan, incorporated herein by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q for the quarter ended September 30, 2006.

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Corporation and Sean Moran, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company filed with the SEC on January 8, 2010.

10.17 Patent License Agreement, dated November 10, 1999, between Celsion Corporation and Duke University, incorporated herein by reference to Exhibit 10.9 to the Annual Report on Form 10-K for the year ended September 30, 1999.*
10.18 License Agreement, dated July 18, 2003, between Celsion Corporation and Duke University, incorporated herein by reference to Exhibit 4.3 to the Registration Statement (File No. 333-108318) filed with the SEC on August 28, 2003.*
10.19 Distribution Agreement, effective January 20, 2003, by and between Celsion Corporation and Boston Scientific Corporation, incorporated herein by reference to Exhibit 99.2 the Current Report on Form 8-K filed with the SEC on January 22, 2003.

10.20 Transaction Agreement, effective January 20, 2003, by and between Celsion Corporation and Boston Scientific Corporation, incorporated herein by reference to Exhibit 99.1 to the Current Report on Form 8-K filed with the SEC on January 22, 2003.* 10.21 First Amendment to Transaction Agreement, effective August 8, 2005, between Celsion Corporation and Boston Scientific Corporation, incorporated herein by reference to Exhibit 99.1 to the Current Report on Form 8-K filed with the SEC on August 9, 2005. 10.22 Convertible Secured Promissory Note, dated August 8, 2005, between Celsion Corporation and Boston Scientific Corporation, incorporated herein by reference to Exhibit 99.2 to the Current Report on Form 8-K filed with the SEC on August 9, 2005. Convertible Secured Promissory Note, dated July 28, 2006, between Celsion Corporation and Boston Scientific Corporation, incorporated herein by reference to 10.23 Exhibit 99.2 to the Current Report on Form 8-K filed with the SEC on August 6, 2006. Settlement and License Agreement, dated February 7, 2007, by and among Celsion Corporation, American Medical Systems and AMS Research Corporation, 10.24 incorporated herein by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2007. 10.25 Asset Purchase Agreement, dated April 17, 2007, by and between Celsion Corporation and Boston Scientific Corporation, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on April 18, 2007 10.26 Stock Purchase Agreement, dated December 7, 2007, by and between Celsion Corporation and Boston Scientific Corporation, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on December 13, 2007. 10.27 First Amendment to the Asset Purchase Agreement, dated June 5, 2008, by and between Celsion Corporation and Boston Scientific Corporation, incorporated herein by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2009. 10.28 Second Amendment to the Asset Purchase Agreement, dated June 2, 2009, by and between Celsion Corporation and Boston Scientific Corporation incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on June 2, 2009. 10.29 Loan and Security Agreement, dated November 9, 2007, by and between Celsion Corporation and Manufacturers and Traders Trust, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on November 14, 2007.

10.30* Development, Product Supply and Commercialization Agreement, effective December 5, 2008, by and between Celsion Corporation and Yakult Honsha Co., Ltd., incorporated herein by reference to Exhibit 10.15 to the Annual Report on Form 10-K for the year ended December 31, 2008. 10.31* The 2nd Amendment To The Development, Product Supply And Commercialization Agreement, effective January 7, 2011, by and between Celsion Corporation and Yakult Honsha Co., Ltd. incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on January 18, 2011. 10.32 Placement Agency Agreement, dated September 25, 2009, among Celsion Corporation and Needham & Company, LLC., incorporated herein by reference to Exhibit 1.1 to the Current Report on Form 8-K filed with the SEC on September 28, 2009. 10.33 Form of Subscription Agreement, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on September 28, 2009. 10.34 Escrow Agreement by and between JPMorgan Chase Bank, N.A., Celsion Corporation, and Needham & Company, LLC, incorporated herein by reference to Exhibit 10.2 to the Current Report on Form 8-K filed with the SEC on September 28, 2009. 10.35 Common Stock Purchase Agreement, dated June 17, 2010, by and between Celsion Corporation and Small Cap Biotech Value, Ltd., incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on June 18, 2010.

10.36	Corporation and Smal	agreement, dated June 17, 2010, by and between Celsion II Cap Biotech Value, Ltd, incorporated herein by reference to current Report on Form 8-K filed with the SEC on June 18, 2010.
10.37	Corporation and the ir	agreement, dated January 12, 2011, by and among Celsion investors named therein, incorporated herein by reference to 8-K filed with the SEC on January 18, 2011.
10.38	Corporation and the p	reement, dated May 26, 2011, by and among Celsion burchasers named therein, incorporated herein by reference to urrent Report on Form 8-K filed with the SEC on June 2, 2011.
10.39	2 p r	Form of Registration Rights Agreement, dated May 26, 2011, by and among Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.2 to the Current Report on Form 8-K filed with the SEC on June 2, 2011.
10.40	2 p r	Form of Securities Purchase Agreement, dated June 30, 2011, by and among Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on July 6, 2011.
10.41	2 p r	Form of Securities Purchase Agreement, dated July 20, 2011, by and among Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on July 25, 2011
10.42	a n F	Form of Purchase Agreement, dated July 20, 2011, by and among Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.2 to the Current Report on Form 8-K filed with the SEC on July 25, 2011.
10.43	2 p r	Form of Registration Rights Agreement, dated July 25, 2011, by and among Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.3 to the Current Report on Form 8-K filed with the SEC on July 25, 2011.
10.44	b F E	Lease Agreement, executed July 21, 2011, by and between Celsion Corporation and Brandywine Operating Partnership, L.P., incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on July 25, 2011.

10.45	Form of Purchase Agreement, dated December 1, 2011, by and among Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on December 6, 2011.
10.46	Form of Registration Rights Agreement, dated December 1, 2011, by and among Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.2 to the Current Report on Form 8-K filed with the SEC on December 6, 2011.
5.1+	Opinion of O'Melveny & Myers LLP.
23.1+	Consent of O'Melveny & Myers LLP (included in Exhibit 5.1).
23.2+	Consent of Stegman & Company.
24.1+	Power of Attorney (included on the signature page hereto).

^{*} Portions of this exhibit have been omitted pursuant to a request for confidential treatment under Rule 24b-2 of the Securities Exchange Act of 1934, amended, and the omitted material has been separately filed with the Securities and Exchange Commission.

+ Filed herewith.

Item 17. Undertakings.

- (a) The undersigned registrant hereby undertakes:
- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) to include any prospectus required by section 10(a)(3) of the Securities Act of 1933;
- (ii) to reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and
- (iii) to include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.
- (2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (b) The undersigned registrant hereby undertakes to deliver or cause to be delivered with the prospectus, to each person to whom the prospectus is sent or given, the latest annual report to security holders that is incorporated by reference in the prospectus and furnished pursuant to and meeting the requirements of Rule 14a-3 or Rule 14c-3 under the Exchange Act and, where interim financial information required to be presented by Article 3 of Regulation S-X is not set forth in the prospectus, to deliver, or cause to be delivered to each person to whom the prospectus is sent or given, the latest quarterly report that is specifically incorporated by reference in the prospectus to provide such interim financial information.
- (c) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.
 - (d) The undersigned registrant hereby undertakes that:

- (1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b) (1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.
- (2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Columbia, State of Maryland, on December 21, 2011.

CELSION CORPORATION

By: /s/ MICHAEL H. TARDUGNO

Name: Michael H. Tardugno
Title: President and Chief
Executive Officer

POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Michael H. Tardugno and Gregory Weaver, and each of them, as his true and lawful attorneys-in-fact and agents, each with the full power of substitution, for him and in his name, place or stead, in any and all capacities, to sign any and all amendments to this Registration Statement (including post-effective amendments), and to sign any registration statement for the same offering covered by this Registration Statement that is to be effective upon filing pursuant to Rule 462(b) promulgated under the Securities Act, and all post-effective amendments thereto, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their, his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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

Name	Position	Date
/s/ MICHAEL H. TARDUGNO (Michael H. Tardugno)	President and Chief Executive Officer (Principal Executive Officer) and Director	December 21, 2011
/s/ GREGORY WEAVER (Gregory Weaver)	Senior Vice President and Chief Financial Officer (Principal Financial Officer)	December 21, 2011
/s/ TIMOTHY J. TUMMINELLO (Timothy J. Tumminello)	Controller and Chief Accounting Officer	December 21, 2011
/s/ MAX E. LINK (Max E. Link, PhD.)	Chairman of the Board, Director	December 21, 2011

/s/ AUGUSTINE CHOW (Augustine Chow, PhD.)	Director	December 21, 2011
/s/ FREDERICK J. FRITZ (Frederick J. Fritz)	Director	December 21, 2011
/s/ ROBERT W. HOOPER (Robert W. Hooper)	Director	December 21, 2011
/s/ ALBERTO MARTINEZ (Alberto Martinez)	Director	December 21, 2011

EXHIBIT INDEX

The following documents are included as exhibits to this report:

EXHIBIT NO.

DESCRIPTION

- 3.1 Amended and Restated Certificate of Incorporation of Celsion Corporation, incorporated herein by reference to Exhibit 3.1.1 to the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2004. 3.2 Certificate of Ownership and Merger of Celsion Corporation (a Maryland Corporation) into Celsion (Delaware) Corporation (inter alia, changing the Company's name to Celsion Corporation from Celsion (Delaware) Corporation), incorporated herein by reference to Exhibit 3.1.3 to the Annual Report on Form 10-K of the Company for the year ended September 30, 2000. 3.3 Certificate of Designations of Series C Junior Participating Preferred Stock of Celsion Corporation, incorporated herein by reference to Exhibit 4.4 to the Form S-3 registration statement (File No. 333-100638) filed with the SEC on October 18, 2002. 3.4 Certificate of Amendment of the Certificate of Incorporation effective February 27, 2006, incorporated therein by reference to Exhibit 3.1 to the Current Report on Form 8-K of the Company
- filed with the SEC on March 1, 2006.
- 3.5 Certificate of Designation for 8% Series A Redeemable Convertible Preferred Stock of Celsion Corporation, incorporated herein by reference to Exhibit 3.1 to the Current Report on Form 8-K filed with the SEC on January 18, 2011.
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for the year ended December 31, 2008.

2007.

Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on November 14,

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- 10.37 Securities Purchase Agreement, dated January 12, 2011, by and among Celsion Corporation and the investors named therein, incorporated herein by reference to Exhibit 10.2 on Form 8-K filed with the SEC on January 18, 2011.
- 10.38 Form of Purchase Agreement, dated May 26, 2011, by and among Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on June 2, 2011.

10.39	Form of Registration Rights Agreement, dated May 26, 2011, by and among Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.2 to the Current Report on Form 8-K filed with the SEC on June 2, 2011.
10.40	Form of Securities Purchase Agreement, dated June 30, 2011, by and among Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on July 6, 2011.
10.41	Form of Securities Purchase Agreement, dated July 20, 2011, by and among Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on July 25, 2011
10.42	Form of Purchase Agreement, dated July 20, 2011, by and among Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.2 to the Current Report on Form 8-K filed with the SEC on July 25, 2011.

10.43	Form of Registration Rights Agreement, dated July 25, 2011, by and among Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.3 to the Current Report on Form 8-K filed with the SEC on July 25, 2011.
10.44	Lease Agreement, executed July 21, 2011, by and between Celsion Corporation and Brandywine Operating Partnership, L.P., incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on July 25, 2011.
10.45	Form of Purchase Agreement, dated December 1, 2011, by and among Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on December 6, 2011.
10.46	Form of Registration Rights Agreement, dated December 1, 2011, by and among Celsion Corporation and the purchasers named therein, incorporated herein by reference to Exhibit 10.2 to the Current Report on Form 8-K filed with the SEC on December 6, 2011.
5.1+	Opinion of O'Melveny & Myers LLP.
23.1+	Consent of O'Melveny & Myers LLP (included in Exhibit 5.1).
23.2+	Consent of Stegman & Company.
24.1+	Power of Attorney (included on the signature page hereto).

^{*} Portions of this exhibit have been omitted pursuant to a request for confidential treatment under Rule 24b-2 of the Securities Exchange Act of 1934, amended, and the omitted material has been separately filed with the Securities and Exchange Commission.

⁺ Filed herewith.