As filed with the Securities and Exchange Commission on August 5, 2010

Registration No. 333-168314

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

AMENDMENT NO. 1 TO 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 (Primary Standard Industrial Classification Code Number) **52-1256615** (I.R.S. Employer Identification No.)

10220-L Old Columbia Road Columbia, Maryland 21046-2364 (410) 290-5390

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

Michael H. Tardugno President and Chief Executive Officer 10220-L Old Columbia Road Columbia, Maryland 21046-2364 (410) 290-5390

(410) 290-5390
(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

Copies to:
Thomas D. Washburne, Jr., Esquire
Michael A. Leber, Esquire
Venable LLP
750 E. Pratt Street, Suite 900
Baltimore, MD 21202

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: \boxtimes

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 Accelerated filer o Non-accelerated filer o Smaller reporting company (Do not check if a

smaller reporting company)

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

The information in this prospectus is not complete and may be changed. The selling stockholder 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 August 5, 2010

PROSPECTUS

2,444,434 Shares



Common Stock

This prospectus relates to the disposition from time to time of up to 2,444,434 shares of our common stock, which are held or may be held by the selling stockholder named in this prospectus. We are not selling any common stock under this prospectus and will not receive any of the proceeds from the sale of shares by the selling stockholder.

The selling stockholder identified in this prospectus, or its permitted transferees or other successors-in-interest, may offer the shares from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices, or at privately negotiated prices. We provide more information about how the selling stockholder may sell its shares of common stock in the section entitled "Plan of Distribution" beginning on page 25 of this prospectus. We will not be paying any underwriting discounts or commissions in connection with any offering of common stock under this prospectus.

Our common stock is listed on The NASDAQ Capital Market under the symbol "CLSN." On August 3, 2010, the last reported sale price of our common stock on The NASDAQ Capital Market was \$3.40.

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 6 of this prospectus, and under similar headings in any amendments or supplements to this prospectus.

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

The date of this prospectus is , , 2010.

TABLE OF CONTENTS

	Page
About this Prospectus	<u>i</u>
Prospectus Summary	<u>1</u>
Risk Factors	<u>6</u>
<u>Disclosure Regarding Forward-Looking Statements</u>	<u>13</u>
<u>Use of Proceeds</u>	<u>14</u>
Price Range of our Common Stock	<u>14</u>
<u>Dividend Policy</u>	<u>14</u>
<u>Description of our Capital Stock</u>	<u>14</u>
Security Ownership of Certain Beneficial Owners and Management	<u>21</u>
Selling Stockholder	<u>23</u>
<u>Plan of Distribution</u>	<u>25</u>
<u>Legal Matters</u>	<u>28</u>
<u>Experts</u>	<u>28</u>
Where You Can Find More Information	<u>28</u>
<u>Information Incorporated by Reference</u>	<u>28</u>

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-1 that we filed with the Securities and Exchange Commission, or the SEC, using the "shelf" registration process. Under this process, the selling stockholder may from time to time, in one or more offerings, sell the common stock described in 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 authorized anyone to provide you with different information. This document may only be used where it is legal to sell these securities. You should not assume that the information contained in this prospectus is accurate as of any date other than its date regardless of the time of delivery of the prospectus or any sale of our common stock.

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.

PROSPECTUS SUMMARY

This summary may not contain all of the information that may be important to you. You should read the entire prospectus (as supplemented and amended), including the financial data and related notes, risk factors and other information incorporated by reference in this prospectus, before making an investment decision.

Celsion Corporation

Overview

Celsion Corporation, or Celsion or the Company, is an innovative oncology drug development company focused on improving treatment for those suffering with aggressive and 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 pivotal Phase III clinical trial for primary liver cancer and a Phase 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 (39.5-42 degrees Celsius) releases the entrapped doxorubicin from the liposome enabling high concentrations of doxorubicin to be deposited preferentially in a targeted tumor.

Celsion has also demonstrated feasibility for a product pipeline of cancer drugs that employ its 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. Additionally, we have formed a joint research agreement with Royal Phillips Electronics to evaluate the combination of Phillips' high intensity focused ultrasound with Celsion's ThermoDox® to determine the potential of this combination to treat a broad range of cancers.

For certain indications, the Company may seek licensing partners to share in the development and commercialization costs. The Company will also evaluate licensing cancer products from third parties for cancer treatments to expand its development pipeline.

In 2008, the Company entered into a licensing agreement with Yakult Honsha under which Yakult was granted the exclusive right to commercialize and market ThermoDox® for the Japanese market. Celsion was paid a \$2.5 million up-front licensing fee and Celsion has the potential to receive an additional \$18 million upon receipt of marketing approval by the Japanese Ministry of Health, Labor and Welfare. Celsion also has the potential to receive additional milestone payments tied to the achievement of certain levels of sales and approval for new indications. Celsion will receive double digit escalating royalties on the sale ThermoDox® in Japan, when and if any such sales occur. Celsion also will be the exclusive supplier of ThermoDox® to Yakult.

In 2005, the Company made a strategic decision to divest its medical device business. The Company sold this business to Boston Scientific Corporation ("Boston Scientific") in 2007 for net aggregate payments of \$43 million, receiving \$13 million in 2007 and \$15 million in each of 2008 and 2009.

Corporate Information

Celsion was founded in 1982 and is a Delaware corporation. Our principal offices are located at 10220-L Old Columbia Road, Columbia, Maryland and our telephone numbers are (410) 290-5390 and

(800) 262-0394. The Company's website is www.celsion.com. Information contained on, or accessible through, our website does not constitute a part of this prospectus.

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 Offering

The selling stockholder named in this prospectus may offer and sell up to 2,444,434 shares of our common stock. Our common stock currently is listed on The NASDAQ Capital Market under they symbol "CLSN." Shares of common stock that may be offered in this offering, when issued and paid for, will be fully paid and non-assessable. We will not receive any of the proceeds of sales by the selling stockholder of any of the common stock covered by this prospectus. Throughout this prospectus, when we refer to the shares of our common stock being registered on behalf of the selling stockholder, we are referring to the shares of common stock that have been and may be issued to Small Cap Biotech Value, Ltd., or SCBV, pursuant to the common stock purchase agreement with SCBV described below. When we refer to the selling stockholder in this prospectus, we are referring to SCBV and, as applicable, any donees, pledgees, transferees or other successors-in-interest selling shares received after the date of this prospectus from SCBVas a gift, pledge, or other non-sale related transfer.

Committed Equity Line Financing Facility with SCBV

On June 17, 2010, we entered into a common stock purchase agreement, which we refer to in this prospectus as the Purchase Agreement, with SCBV providing for a financing arrangement that is sometimes referred to as a committed equity line financing facility. The Purchase Agreement provides that, upon the terms and subject to the conditions set forth therein, SCBV is committed to purchase up to \$15.0 million of shares of our common stock over the 24-month term of the Purchase Agreement under certain specified conditions and limitations, provided that in no event may we sell under the Purchase Agreement more than 2,404,434 shares of common stock, which is equal to one share less than 20% of our outstanding shares of common stock on June 17, 2010, the closing date of the Purchase Agreement, less the number of shares of common stock we issued to SCBV on the closing date as Commitment Shares (described below). Furthermore, in no event may SCBV purchase any shares of our common stock which, when aggregated with all other shares of our 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 our common stock. These maximum share and beneficial ownership limitations may not be waived by the parties.

From time to time over the term of the Purchase Agreement, in our sole discretion, we may present SCBV with draw down notices requiring SCBV to purchase a specified dollar amount of shares of our common stock, based on the price per share over 10 consecutive trading days, or the Draw Down Period, with the total dollar amount of each draw down subject to certain agreed-upon limitations based on the market price of our common stock at the time of the draw down (which may not be waived or modified). In addition, in our sole discretion, but subject to certain limitations, we may require SCBV to purchase a percentage of the daily trading volume of our common stock for each trading day during the Draw Down Period. We are permitted to present SCBV with up to 24 draw down notices during the term of the Purchase Agreement, with only one such draw down notice allowed per Draw Down Period and a minimum of five trading days required between each Draw Down Period.

Once presented with a draw down notice, SCBV is required to purchase a pro rata portion of the shares on each trading day during the trading period on which the daily volume weighted average price for our common stock exceeds a threshold price determined by us for such draw down. The per share purchase price for these shares equals the daily volume weighted average price of our common stock

on each date during the Draw Down Period on which shares are purchased, less a discount ranging from 5.00% to 6.00% (which range may not be modified), based on a minimum price we specify. If the daily volume weighted average price of our common stock falls below the threshold price on any trading day during a Draw Down Period, the Purchase Agreement provides that SCBV will not be required to purchase the pro-rata portion of shares of common stock allocated to that trading day. The obligations of SCBV under the Purchase Agreement to purchase shares of our common stock may not be transferred to any other party.

In partial consideration for SCBV's execution and delivery of the Purchase Agreement, we issued to SCBV upon the execution and delivery of the Purchase Agreement 40,000 shares of our common stock, which we refer to as the 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, is exempt from registration under the Securities Act of 1933, as Amended, or the 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.

SCBV has agreed that during the term of the Purchase Agreement, neither SCBV nor any of its affiliates will, directly or indirectly, engage in any short sales involving our securities or grant any option to purchase, or acquire any right to dispose of or otherwise dispose for value of, any shares of our common stock or any securities convertible into or exercisable or exchangeable for any shares of our common stock, or enter into any swap, hedge or similar agreement that transfers, in whole or in part, the economic risk of ownership of any shares of our common stock, provided that SCBV will not be prohibited from engaging in certain transactions relating to any shares of our common stock that it owns, including the Commitment Shares, or that it is obligated to purchase under a pending draw down notice.

The Purchase Agreement contains customary representations, warranties and covenants by, among and for the benefit of the parties. Before SCBV is obligated to purchase any shares of our common stock pursuant to a draw down notice, certain conditions specified in the Purchase Agreement, none of which are in SCBV's control, must be satisfied, including the following:

- Each of our representations and warranties in the Purchase Agreement must be true and correct in all material respects.
- We must have performed, satisfied and complied in all material respects with all covenants, agreements and conditions required to be performed, satisfied or complied with by us.
- The registration statement that includes this prospectus must be effective under the Securities Act.
- We must not have knowledge of any event that could reasonably be expected to have the effect of causing the suspension of the effectiveness of the registration statement that includes this prospectus or the prohibition or suspension of the use of this prospectus.
- We must have filed with the SEC the final version of this prospectus and all required prospectus supplements relating to this prospectus and all periodic reports and filings required to be filed by us under the Securities Exchange Act of 1934, as amended, or the Exchange Act.
- Trading in our common stock must not have been suspended by the SEC, The NASDAQ Capital Market or the Financial Industry Regulatory Authority, or FINRA, and trading in securities generally on The NASDAQ Capital Market must not have been suspended or limited.
- We must have complied with all applicable federal, state and local governmental laws, rules, regulations and ordinances in connection with the execution, delivery and performance of the Purchase Agreement and the Registration Rights Agreement (described below).

- The absence of any statute, regulation, order, decree, writ, ruling or injunction by any court or governmental authority of competent jurisdiction which prohibits the consummation of or which would materially modify or delay any of the transactions contemplated by the Purchase Agreement and the Registration Rights Agreement.
- The absence of any action, suit or proceeding before any arbitrator or any court or governmental authority and any inquiry or investigation by any governmental authority seeking to restrain, prevent or change the transactions contemplated by the Purchase Agreement or the Registration Rights Agreement, or seeking damages in connection with such transactions.
- The absence of any condition, occurrence, state of facts or event having, or insofar as reasonably can be foreseen would likely have, any effect on our business, operations, properties or condition (financial or otherwise) that is material and adverse to us.

There is no guaranty that we will be able to meet the foregoing conditions or any of the other conditions in the Purchase Agreement or that we will be able to draw down any portion of the amounts available under the equity line with SCBV.

The Purchase Agreement may be terminated at any time by the mutual written consent of the parties. Unless earlier terminated, the Purchase Agreement will terminate automatically on the earlier to occur of (i) the first day of the month next following the 24-month anniversary of the effective date of the registration statement which includes this prospectus (which term may not be extended by the parties) and (ii) the date on which SCBV purchases the entire commitment amount under the Purchase Agreement. We may terminate the Purchase Agreement on one trading day's prior written notice to SCBV, subject to certain conditions. SCBV may terminate the Purchase Agreement effective upon one trading day's prior written notice to us under certain circumstances, including the following:

- The existence of any condition, occurrence, state of facts or event having, or insofar as reasonably can be foreseen would likely have, any effect on our business, operations, properties or condition (financial or otherwise) that is material and adverse to us.
- Certain transactions involving a change in control of the Company or the sale of all or substantially all of our assets has occurred.
- We are in breach or default in any material respect under any of the provisions of the Purchase agreement or the Registration Rights Agreement, and, if such breach or default is capable of being cured, such breach or default is not cured within 10 trading days after notice of such breach or default is delivered to us.
- While SCBV holds any shares issued under the Purchase Agreement, the effectiveness of the registration statement that includes this prospectus is suspended or the use of this prospectus is suspended or prohibited, and such suspension or prohibition continues for a period of 20 consecutive trading days or for more than an aggregate of 20 consecutive trading days or for more than an aggregate of 60 trading days in any 365-day period, subject to certain exceptions.
- Trading in our common stock is suspended or our common stock ceases to be listed or quoted on a trading market, and such suspension or failure
 continues for a period of 20 consecutive trading days or for more than an aggregate of 60 trading days in any 365-day period.
- We have filed for and/or are subject to any bankruptcy, insolvency, reorganization or liquidation proceedings.

The Purchase Agreement provides that no termination of the Purchase Agreement will limit, alter, modify, change or otherwise affect any of the parties' rights or obligations with respect to any pending draw down notice, and that the parties must fully perform their respective obligations with respect to

any such pending draw down notice under the Purchase Agreement, provided all of the conditions to the settlement thereof are timely satisfied.

The Purchase Agreement also provides for indemnification of SCBV and its affiliates in the event that SCBV incurs losses, liabilities, obligations, claims, contingencies, damages, costs and expenses related to a breach by us of any of our representations and warranties under the Purchase Agreement or the other related transaction documents or any action instituted against SCBV or its affiliates due to the transactions contemplated by the Purchase Agreement or other transaction documents, subject to certain limitations.

We agreed to pay \$35,000 of reasonable attorneys' fees and expenses (exclusive of disbursements and out-of-pocket expenses) incurred by SCBV in connection with the preparation, negotiation, execution and delivery of the Purchase Agreement and related transaction documentation. We also agreed to pay certain fees and expenses incurred by SCBV in connection with ongoing due diligence of our company on a quarterly basis. Further, if we issue a draw down notice and fail to deliver the shares to SCBV on the applicable settlement date, and such failure continues for 10 trading days, we agreed to pay SCBV, in addition to all other remedies available to SCBV under the Purchase Agreement, an amount in cash equal to 2.0% of the purchase price of such shares for each 30-day period the shares are not delivered, plus accrued interest.

In connection with the Purchase Agreement, on June 17, 2010, we entered into a registration rights agreement with SCBV, which refer to in this prospectus as the Registration Rights Agreement, pursuant to which we granted to SCBV certain registration rights related to the Commitment Shares and the shares issuable under the Purchase Agreement. Pursuant to the Registration Rights Agreement, we have filed with the SEC a registration statement, of which this prospectus is a part, relating to the selling stockholder's resale of the Commitment Shares and any shares of common stock purchased by SCBV under the Purchase Agreement. The effectiveness of this registration statement is a condition precedent to our ability to sell common stock to SCBV under the Purchase Agreement.

We also agreed, among other things, to indemnify SCBV from certain liabilities and fees and expenses of SCBV incident to our obligations under the Registration Rights Agreement, including certain liabilities under the Securities Act. SCBV has agreed to indemnify and hold harmless us and each of our directors, officers and persons who control us against certain liabilities that may be based upon written information furnished by SCBV to us for inclusion in a registration statement pursuant to the Registration Rights Agreement, including certain liabilities under the Securities Act.

Reedland Capital Partners, an Institutional Division of Financial West Group, member of FINRA/SIPC, or Reedland, served as our placement agent in connection with the financing arrangement contemplated by the Purchase Agreement. We have agreed to pay Reedland, upon each sale of our 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 will be reduced to 0.5% of the aggregate dollar amount of common stock purchased. We have agreed to indemnify and hold harmless Reedland against certain liabilities, including certain liabilities under the Securities Act

The foregoing description of the Purchase Agreement and the Registration Rights Agreement does not purport to be complete and is qualified in its entirety by reference to the full text of the Purchase Agreement and Registration Rights Agreement, copies of which have been filed or incorporated by reference as exhibits to the registration statement of which this prospectus is a part.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should consider carefully the risk factors described below, and all other information contained in or incorporated by reference in this prospectus (as supplemented and amended), before deciding whether to buy our common stock. The below risk factors are ones that we believe are most relevant to our business and that, individually or in the aggregate, we think could cause our actual results to differ significantly from anticipated or historical results. If any of the following risks actually occur, the market price of our common stock could decline, and you could lose all or part of your investment. Additional risks not presently known to us or that we currently believe are immaterial may also significantly impair our business operations and could result in a complete loss of your investment.

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

Since Celsion's inception, our expenses have substantially exceeded our revenues, resulting in continuing losses and an accumulated deficit of \$82.1 million at December 31, 2009 and \$90.9 million at June 30, 2010. For the year ended December 31, 2009 we incurred a net loss of \$15.2 million, and for the six months ended June 30, 2010, we incurred a net loss of \$8.8 million. Because we presently have no product revenues and we are committed to continuing our product research, development and commercialization programs, we will continue to experience significant operating losses unless and until we complete the development of ThermoDox® and other new products and these products have been clinically tested, approved by the FDA and successfully marketed.

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 treatment systems,

As of December 31, 2009, we had approximately \$14.1 million in cash, short term investments and other receivables and current assets, and as of June 30, 2010, we had approximately \$6.0 million in cash, short term investments and other receivables and current assets. To complete the development and commercialization of our product, we will need to raise substantial amounts of additional capital. We do not have any committed sources of financing other than the committed equity line financing facility with SCBV described herein, our utilization of which is subject to certain limitations and conditions that may or may not be satisfied, and we cannot offer any assurances that additional funding will be available in a timely manner, on acceptable terms or at all.

In the event we can not raise sufficient 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 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.

We rely on third parties to conduct all of our clinical trials. If these third parties do not successfully carry out their contractual duties, comply with budgets and other financial obligations or meet expected deadlines, we may not be able to obtain regulatory approval for or commercialize our product candidates in a timely or cost-effective manner.

We currently have only 17 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 do not successfully carry out their contractual duties or obligations 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, and we may not be able to obtain regulatory approval for or successfully commercialize our product candidates.

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

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

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

We are subject to the periodic inspection of our clinical trials, facilities, procedures and operations and/or the testing of our products by the FDA to determine whether our systems and processes 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.

There have been a number of federal and state proposals during the last few years to subject the pricing of health care goods and services to government control and to make other changes to the United States health care system. 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.

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

Our business strategy contemplates growth and diversification. Our ability to manage growth effectively will require that we continue to expend funds to improve our operational, financial and management controls, reporting systems and procedures. In addition, we must effectively expand, train and manage our employees. We will be unable to manage our businesses 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 \$10.0 million per incident and \$10.0 million annually. If we were to be subject to a claim in excess of this coverage or to a claim not covered by our insurance and the claim succeeded, we would be required to pay the claim with our own limited resources, which could have a 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.

We have not paid dividends in the past and do not intend to do so for the foreseeable future.

We have never paid cash dividends and do not anticipate paying cash dividends in the foreseeable future. Therefore, our stockholders cannot achieve any degree of liquidity with respect to their shares of common stock except by selling such shares.

Our stock price has been, and could be, volatile.

Market prices for our common stock and the securities of other medical, high technology companies have been volatile. Our common stock had a high price of \$5.18 and a low price of \$2.05 in the 52-week period ending December 31, 2009, and a high price of \$5.44 and a low price of \$2.76 in the six month period beginning January 1, 2010 and ending June 30, 2010. Factors such as announcements of technological innovations or new products by us or by our competitors, government regulatory action, litigation, patent or proprietary rights developments and market conditions for medical and high technology stocks in general can have a significant impact on the market for our common stock.

Our stock price 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 Stock Market, LLC (and previously on the American Stock Exchange), 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.

Our common stock may not meet the continued listing requirements for The NASDAQ Capital Market.

Our common stock transferred to The NASDAQ Capital Market on July 12, 2010 as a result of our failure to satisfy the requirements for continued listing on The NASDAQ Global Market. There can be no assurance that we will continue to satisfy the requirements for continued listing on The NASDAQ Capital Market, in which case our common stock could be delisted by The NASDAQ Stock Market, LLC.

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

Our Certificate of Incorporation and Bylaws may discourage, delay or prevent a merger or acquisition that a stockholder may consider favorable by authorizing the issuance of "blank check" preferred stock. This preferred stock may be issued by the Board of Directors (the "Board"), on such terms as it determines, without further stockholder approval. Therefore, the Board may issue such preferred stock on terms unfavorable to a potential bidder in the event that the Board opposes a merger or acquisition. In addition, our classified Board may discourage such transactions by increasing the amount of time necessary to obtain majority representation on the Board. 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 (the "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 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, 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 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

Statements and terms such as "expect", "anticipate", "estimate", "plan", "believe" and words of similar import regarding the Company's expectations as to the development and effectiveness of its technologies, the potential demand for our products, and other aspects of our present and future business operations, constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Although we believe that our expectations are based on reasonable assumptions within the bounds of our knowledge of our industry, business and operations, we cannot guarantee that actual results will not differ materially from our expectations. In evaluating such forward-looking statements, readers should specifically consider the various factors discussed under the heading "Risk Factors" contained in this prospectus and under similar headings in any amendments or supplements to this prospectus including, without limitation, unforeseen changes in the course of research and development activities and in clinical trials; possible changes in cost and timing of development and testing, capital structure, and other financial items; changes in approaches to medical treatment; introduction of new products by others; possible acquisitions of other technologies, assets or businesses; and possible actions by customers, suppliers, competitors and regulatory authorities. These and other risks and uncertainties could cause actual results to differ materially from those indicated by such forward-looking statements, including those set forth under the heading "Risk Factors" contained in this prospectus and under similar headings in any amendments or supplements to this prospectus.

The discussion of risks and uncertainties set forth in this prospectus and in documents incorporated by reference herein is not necessarily a complete or exhaustive list of all risks facing the Company at any particular point in time. We operate in a highly competitive, highly regulated and rapidly changing environment and our business is in a state of evolution. Therefore, it is likely that new risks will emerge, and that the nature and elements of existing risks will change, over time. It is not possible for management to predict all such risk factors or changes therein, or to assess either the impact of all such risk factors on our business or the extent to which any individual risk factor, combination of factors, or new or altered factors, may cause results to differ materially from those contained in any forward-looking statement. Except as required by law, we disclaim any obligation to revise or update any forward-looking statement that may be made from time to time by us or on our behalf.

USE OF PROCEEDS

The selling stockholder will receive all of the net proceeds from sales of the common stock sold pursuant to this prospectus.

PRICE RANGE OF OUR COMMON STOCK

Since July 12, 2010, our common stock has been listed on The NASDAQ Capital Market under the symbol "CLSN," and was previously listed on The NASDAQ Global Market since February 8, 2008. Prior to February 8, 2008, our common stock was listed on the American Stock Exchange. The following table sets forth, for the periods indicated, the reported high and low sales prices of our common stock:

Year ended December 31, 2008	High	Low
First Quarter (January 1 - March 31, 2008)	\$ 6.68	\$ 2.80
Second Quarter (April 1 - June 30, 2008)	\$ 6.00	\$ 3.38
Third Quarter (July 1 - September 30, 2008)	\$ 4.48	\$ 1.72
Fourth Quarter (October 1 - December 31, 2008)	\$ 3.40	\$ 1.65

Year ended December 31, 2009	High	Low
First Quarter (January 1 - March 31, 2009)	\$ 3.60	\$ 2.05
Second Quarter (April 1 - June 30, 2009)	\$ 4.85	\$ 3.00
Third Quarter (July 1 - September 30, 2009)	\$ 5.18	\$ 3.25
Fourth Ouarter (October 1 - December 31, 2009)	\$ 3.54	\$ 2.74

Year ended December 31, 2010	High	Low
First Quarter (January 1 - March 31, 2010)	\$ 4.69	\$ 2.76
Second Quarter (April 1 - June 30, 2010)	\$ 5.44	\$ 3.12

The reported last sale price of our common stock on The NASDAQ Capital Market on August 3, 2010 was \$3.40 per share. As of August 3, 2010, there were approximately 9,000 holders of record of our common stock.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our common stock or other securities 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 August 3, 2010, there were 12,267,177 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, or the DGCL, and on the provisions of our certificate of incorporation, as amended, or the Certificate of Incorporation, and our bylaws, as amended, or the 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 the Board of Directors of the Company, or the Board, 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.

The Board 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 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;
- any listing of the preferred stock on any securities exchange or market;
- 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 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 declared a dividend distribution of one preferred share purchase right, or a Purchase Right, for each outstanding share of our common stock. The dividend was payable to the stockholders of record on August 6, 2002, or the 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, or the 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, or the 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, or the 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, or 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 the Board 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 the Board 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. The Board 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 (10,0000) 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, or 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 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, 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 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 believes that these provisions are appropriate to protect our interests and the interests of our stockholders.

Classification of Board and No Cumulative Voting. Our Certificate of Incorporation and Bylaws provide for our Board 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. A special meeting of our

stockholders may be called at any time by the Board, the chairman of the Board or the president. Subject to the rights of the holders of any series of preferred stock or any other class of stock or series thereof having a preference over the common stock as to dividends or upon liquidation, stockholders may take action only at a regular or special meeting of stockholders and not by written consent without a meeting.

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 our principal executive offices not less than 120 days prior to the date specified in the Company's proxy statement released to stockholders in connection with the previous year's annual meeting. If no annual meeting was held in the previous year or the date of the annual meeting has been changed by more than 30 days from the date contemplated at the time of the previous year's proxy statement, notice by the stockholder in order to be timely must be received by the Company no later than the close of business on the later of the 120th day prior to the date of such annual meeting or the tenth day following the day on which public announcement of the date of the meeting was first made. 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.

Filling of Board Vacancies. Our Certificate of Incorporation and our Bylaws provide that vacancies in the Board and newly created directorships resulting from any increase in the authorized number of directors on the Board may be filled by a majority of the directors remaining in office, even though that number may be less than a quorum of the Board, 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 the stockholders of the Company 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 (i) by the board of directors or (ii) by the stockholders entitled to vote. 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 the Board or by the requisite number of stockholders.

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 66²/3% 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 and registrar for our common stock is American Stock Transfer & Trust Company, 59 Maiden Lane, Plaza Level, New York, NY 10038. Its phone 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 August 3, 2010 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 2010 Annual Meeting of Stockholders, as filed with the SEC on April 30, 2010; (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)
Max E. Link(3)	262,474	2.14%
Robert W. Hooper(4)	0	**
Gregory Weaver(5)	67,010	**
Augustine Chow(6)	55,000	**
Michael H. Tardugno(7)	507,662	4.14%
Nicholas Borys(8)	132,370	1.08%
Timothy J. Tumminello(9)	10,200	**
Sean Moran(10)	80,000	**
Directors and Executive Officers as a group (8		
persons)(11)	1,043,049	8.50%

^{*} The address of each of the persons named is c/o Celsion Corporation, 10220-L Old Columbia Road, Columbia, MD 21046.

- ** 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 12,267,177 shares of common stock outstanding as of August 3, 2010.
- (3) Includes 99,912 shares of common stock underlying options currently exercisable or exercisable within 60 days of August 3, 2010.
- (4) The Company's Board of Directors elected Mr. Hooper as a director effective July 29, 2010, filling a vacancy created by Gary W. Pace, Ph.D., who tendered his resignation as a member of the Company's Board of Directors effective July 29, 2010
- (5) Includes 57,010 shares of common stock underlying options currently exercisable or exercisable within 60 days of August 3, 2010.
- (6) Includes 55,000 shares of common stock underlying options currently exercisable or exercisable within 60 days of August 3, 2010.
- (7) Includes 385,000 shares of common stock underlying options currently exercisable or exercisable within 60 days of August 3, 2010.
- (8) Includes 105,833 shares of common stock underlying options currently exercisable or exercisable within 60 days of August 3, 2010.

- (9) Includes 2,500 shares of common stock underlying options currently exercisable or exercisable within 60 days of August 3, 2010.
- (10) Includes 66,667 shares of common stock underlying options currently exercisable or exercisable within 60 days of August 3, 2010. The right to exercise these options will expire in January 2011. Mr. Moran is no longer employed by Celsion.
- (11) Includes only Directors and Executive Officers as of August 3, 2010 and does not include shares held by Mr. Moran as he was no longer employed by Celsion as of August 3, 2010. Includes 8,333 shares beneficially owned by Jeffrey W. Church who was appointed as Vice President and Chief Financial Officer of the Company effective July 6, 2010. Includes 713,588 shares of common stock underlying options and grants currently exercisable or exercisable within 60 days of August 3, 2010.

SELLING STOCKHOLDER

This prospectus relates to the possible resale from time to time by the selling stockholder of any or all of the shares of common stock that (i) may be issued by us to SCBV under the Purchase Agreement and (ii) have been issued as of the date hereof to SCBV as Commitment Shares under the terms of the Purchase Agreement. For additional information regarding the issuance of common stock covered by this prospectus, see "Prospectus Summary—Committed Equity Line Financing With SCBV" above. We are registering the shares of common stock pursuant to the provisions of the Registration Rights Agreement we entered into with SCBV on June 17, 2010 in order to permit the selling stockholder to offer the shares for resale from time to time. Except for the ownership of the Commitment Shares and for the transactions contemplated by the Purchase Agreement and the Registration Rights Agreement, SCBV has not had any material relationship with us within the past three years.

The table below presents information regarding the selling stockholder and the shares of common stock that it may offer from time to time under this prospectus. This table is prepared based on information supplied to us by the selling stockholder, and reflects holdings as of August 3, 2010. As used in this prospectus, the term "selling stockholder" includes SCBV and any donees, pledgees, transferees or other successors in interest selling shares received after the date of this prospectus from the selling stockholder as a gift, pledge, or other non-sale related transfer. The number of shares in the column "Maximum Number of Shares of Common Stock to be Offered Pursuant to this Prospectus" represents all of the shares of common stock that the selling stockholder may offer under this prospectus. The selling stockholder may sell some, all or none of its shares in this offering. We do not know how long the selling stockholder will hold the shares before selling them, and we currently have no agreements, arrangements or understandings with the selling stockholder regarding the sale of any of the shares.

Beneficial ownership is determined in accordance with Rule 13d-3(d) promulgated by the SEC under the Exchange Act, and includes shares of common stock with respect to which the selling stockholder has voting and investment power. The percentage of shares of common stock beneficially owned by the selling stockholder prior to the offering shown in the table below is based on an aggregate of 12,267,177 shares of our common stock outstanding on August 3, 2010. Because the purchase price of the shares of common stock issuable under the Purchase Agreement is determined on each settlement date, the number of shares that may actually be sold by the Company under the Purchase Agreement may be fewer than the number of shares being offered by this prospectus. The fourth column assumes the sale of all of the shares offered by the selling stockholder pursuant to this prospectus.

	Number of	Shares of		Number of	Shares of
	Common Sto	ock Owned	Maximum Number of	Common Sto	ock Owned
	Prior to C	Offering	Shares of Common Stock	After Of	ffering
			to be Offered Pursuant to		
Name of Selling Stockholder	Number(1)	Percent(2)	this Prospectus	Number(3)	Percent(3)
Small Cap Biotech Value, Ltd.(4)	40,000	*	2,444,434	_	_

^{*} Represents beneficial ownership of less than one percent of the outstanding shares of our common stock.

⁽¹⁾ This number represents the 40,000 shares of common stock we issued to SCBV on June 17, 2010 as Commitment Shares in consideration for entering into the Purchase Agreement with us. In accordance with Rule 13d-3(d) under the Exchange Act, we have excluded from the number of shares beneficially owned prior to the offering all of the shares that SCBV may be required to purchase under the Purchase Agreement because the issuance of such shares is solely at our discretion and is subject to certain conditions, the satisfaction of all of which are outside of SCBV's control, including the registration statement of which this prospectus is a part becoming

and remaining effective. Furthermore, the maximum dollar value of each put of common stock to SCBV under the Purchase Agreement is subject to certain agreed upon threshold limitations set forth in the Purchase Agreement, which are based on the market price of our common stock at the time of the draw down and, if we determine in our sole discretion, a percentage of the daily trading volume of our common stock during the Draw Down Period as well. Also, under the terms of the Purchase Agreement, we may not issue shares of our common stock to SCBV to the extent that SCBV or any of its affiliates would, at any time, beneficially own more than 9.9% of our outstanding common stock. This beneficial ownership limitation may not be waived by the parties.

- (2) Applicable percentage ownership is based on 12,267,177 shares of our common stock outstanding as of August 3, 2010.
- (3) Assumes the sale of all shares being offered pursuant to this prospectus.
- (4) The business address of SCBV is c/o Fiduciary Services (BVI) Limited, 4th Floor, Rodus Building, Road Reef, Road Town, Tortola, British Virgin Islands. SCBV's principal business is that of an international business company. We have been advised that SCBV is not a member of FINRA, or an independent broker-dealer, and that neither SCBV nor any of its affiliates is an affiliate or an associated person of any FINRA member or independent broker-dealer. Peter W. Poole is the sole director of SCBV and has sole voting control and investment discretion over securities owned by SCBV. The foregoing should not be construed in and of itself as an admission by Mr. Poole as to beneficial ownership of the securities owned by SCBV.

PLAN OF DISTRIBUTION

We are registering (i) shares of common stock that may be issued by us from time to time to SCBV under the Purchase Agreement to permit the resale of these shares of common stock after the issuance thereof by the selling stockholder from time to time after the date of this prospectus and (ii) shares of common stock that have been issued as of the date hereof as Commitment Shares to SCBV under the terms of the Purchase Agreement to permit the resale of these shares of common stock by the selling stockholder from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the selling stockholder of the shares of common stock. We will bear all fees and expenses incident to our obligation to register the shares of common stock.

The selling stockholder may decide not to sell any shares of common stock. The selling stockholder may sell all or a portion of the shares of common stock beneficially owned by it and offered hereby from time to time directly or through one or more underwriters, broker-dealers or agents, who may receive compensation in the form of discounts, concessions or commissions from the selling stockholder and/or the purchasers of the shares of common stock for whom they may act as agent. In effecting sales, broker-dealers that are engaged by the selling stockholder may arrange for other broker-dealers to participate. SCBV is an "underwriter" within the meaning of the Securities Act. Any brokers, dealers or agents who participate in the distribution of the shares of common stock by the selling stockholder may also be deemed to be "underwriters," and any profits on the sale of the shares of common stock by them and any discounts, commissions or concessions received by any such brokers, dealers or agents may be deemed to be underwriting discounts and commissions under the Securities Act. SCBV has advised us that it will use an unaffiliated broker-dealer to effectuate all resales of our common stock. To our knowledge, SCBV has not entered into any agreement, arrangement or understanding with any particular broker-dealer or market maker with respect to the shares of common stock offered hereby, nor do we know the identity of the broker-dealers or market makers that may participate in the resale of the shares. Because SCBV is, and any other selling stockholder, broker, dealer or agent may be deemed to be, an "underwriter" within the meaning of the Securities Act, SCBV will (and any other selling stockholder, broker, dealer or agent may) be subject to the prospectus delivery requirements of the Securities Act and may be subject to certain statutory liabilities of the Securities Act (including, without limitation, Sections 11, 12 and 17 thereof) and Rule 10b-5 under the Exchange Act.

The selling stockholder will act independently of us in making decisions with respect to the timing, manner and size of each sale. The shares of common stock may be sold in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions, pursuant to one or more of the following methods:

- on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale;
- in the over-the-counter market in accordance with the rules of NASDAQ;
- in transactions otherwise than on these exchanges or systems or in the over-the-counter market;
- through the writing or settlement of options, whether such options are listed on an options exchange or otherwise;
- 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 distribution in accordance with the rules of the applicable exchange;

- privately negotiated transactions;
- broker-dealers may agree with the selling stockholder 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 pursuant to applicable law.

The selling stockholder may also sell shares of common stock covered by this Prospectus pursuant to Rule 144 promulgated under the Securities Act, if available, rather than under this prospectus. In addition, the selling stockholder may transfer the shares of common stock by other means not described in this prospectus.

Any broker-dealer participating in such transactions as agent may receive commissions from the selling stockholder (and, if they act as agent for the purchaser of such shares, from such purchaser). SCBV has informed us that each such broker-dealer will receive commissions from SCBV which will not exceed customary brokerage commissions. Broker-dealers may agree with the selling stockholder to sell a specified number of shares at a stipulated price per share, and, to the extent such a broker-dealer is unable to do so acting as agent for the selling stockholder, to purchase as principal any unsold shares at the price required to fulfill the broker-dealer commitment to the selling stockholder. Broker-dealers who acquire shares as principal may thereafter resell such shares from time to time in one or more transactions (which may involve crosses and block transactions and which may involve sales to and through other broker-dealers, including transactions of the nature described above and pursuant to the one or more of the methods described above) at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or at negotiated prices, and in connection with such resales may pay to or receive from the purchasers of such shares commissions computed as described above. To the extent required under the Securities Act, an amendment to this prospectus or a supplemental prospectus will be filed, disclosing:

- the name of any such broker-dealers;
- the number of shares involved;
- the price at which such shares are to be sold;
- the commission paid or discounts or concessions allowed to such broker-dealers, where applicable;
- that such broker-dealers did not conduct any investigation to verify the information set out or incorporated by reference in this prospectus, as supplemented; and
- other facts material to the transaction.

SCBV has informed us that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the common stock. Pursuant to a requirement of FINRA, the maximum commission or discount and other compensation to be received by any FINRA member or independent broker-dealer shall not be greater than eight percent (8%) of the gross proceeds received by us for the sale of any securities being registered pursuant to Rule 415 under the Securities Act.

Under the securities laws of some states, the shares of common stock may be sold in such states only through registered or licensed brokers or dealers. In addition, in some states the shares of common stock may not be sold unless such shares have been registered or qualified for sale in such state or an exemption from registration or qualification is available and is complied with.

There can be no assurance that the selling stockholder will sell any or all of the shares of common stock registered pursuant to the registration statement, of which this prospectus forms a part.

Underwriters and purchasers that are deemed underwriters under the Securities Act may engage in transactions that stabilize, maintain or otherwise affect the price of the common stock, including the entry of stabilizing bids or syndicate covering transactions or the imposition of penalty bids. The selling stockholder and any other person participating in the sale or distribution of the shares of common stock will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder (including, without limitation, Regulation M of the Exchange Act), which may restrict certain activities of, and limit the timing of purchases and sales of any of the shares of common stock by, the selling stockholder and any other participating person. To the extent applicable, Regulation M may also restrict the ability of any person engaged in the distribution of the shares of common stock to engage in market-making and certain other activities with respect to the shares of common stock. In addition, the anti-manipulation rules under the Exchange Act may apply to sales of the shares of common stock in the market. All of the foregoing may affect the marketability of the shares of common stock and the ability of any person or entity to engage in market-making activities with respect to the shares of common stock.

We have agreed to pay all expenses of the registration of the shares of common stock pursuant to the registration rights agreement, estimated to be \$149,000 in total, including, without limitation, Securities and Exchange Commission filing fees and expenses of compliance with state securities or "blue sky" laws; provided, however, SCBV will pay all selling commissions, concessions and discounts, and other amounts payable to underwriters, dealers or agents, if any, as well as transfer taxes an certain other expenses associated with the sale of the shares of common stock. We have agreed to indemnify SCBV and certain other persons against certain liabilities in connection with the offering of shares of common stock offered hereby, including liabilities arising under the Securities Act or, if such indemnity is unavailable, to contribute amounts required to be paid in respect of such liabilities. SCBV has agreed to indemnify us against liabilities under the Securities Act that may arise from any written information furnished to us by SCBV specifically for use in this prospectus or, if such indemnity is unavailable, to contribute amounts required to be paid in respect of such liabilities.

At any time a particular offer of the shares of common stock is made by the selling stockholder, a revised prospectus or prospectus supplement, if required, will be distributed. Such prospectus supplement or post-effective amendment will be filed with the Securities and Exchange Commission to reflect the disclosure of any required additional information with respect to the distribution of the shares of common stock. We may suspend the sale of shares by the selling stockholder pursuant to this prospectus for certain periods of time for certain reasons, including if the prospectus is required to be supplemented or amended to include additional material information.

LEGAL MATTERS

The validity of the securities being offered hereby will be passed upon by Venable LLP, Baltimore, Maryland, legal counsel to Celsion.

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, 2009, 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 have filed with the SEC a registration statement on Form S-1 under the Securities Act that registers the shares of our common stock that may be sold by the selling stockholder from time to time in one or more offerings. The registration statement, including the exhibits and schedules thereto, contains additional relevant information about us and our capital stock. The rules and regulations of the SEC allow us to omit from this prospectus certain information included in the registration statement. For further information about us and our common stock, you should refer to the registration statement and the exhibits and schedules to the registration statement. With respect to the statements contained in this prospectus regarding the contents of any agreement or any other document, in each instance, the statement is qualified in all respects by the complete text of the agreement or document, a copy of which has been filed or incorporated by reference as an exhibit to the registration statement.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy any document we file at the SEC's Public Reference Room at 100 F. Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the public reference room. Celsion's SEC filings are also available free to the public on the SEC's Internet website at www.sec.gov, which contains reports, proxy and information statements and other information regarding companies that file electronically with the SEC.

INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to incorporate by reference the information we file with it, which means that we can disclose important information to you by referring you to another document that we have filed separately with the SEC. You should read the information incorporated by reference because it is an important part of this prospectus. We incorporate by reference the following information or documents that we have filed with the SEC:

- our Annual Report on Form 10-K for the year ended December 31, 2009, as filed with the SEC on March 17, 2010;
- our Quarterly Reports on Form 10-Q for the quarters ended June 30, 2010 and March 31, 2010, as filed with the SEC on August 3, 2010 and May 4, 2010, respectively;
- our Definitive Proxy Statement on Schedule 14A for our 2010 Annual Meeting of Stockholders, as filed with the SEC on April 30, 2010;
- our Current Reports on Form 8-K, as filed with the SEC on August 2, 2010, July 9, 2010, June 29, 2010, June 18, 2010, and January 8, 2010; and
- The description of the Common Stock set forth under the heading "Item 1. Description of Registrant's Securities to be Registered" in the our Registration Statement on Form 8-A (File

No. 001-15911), filed with the Commission on May 26, 2000 under Section 12(g) of the Exchange Act, together with any amendment or report filed with the Commission 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 to each person, including any beneficial owner, to whom a prospectus is delivered, without charge upon written or oral request, a copy of any or all of the documents that are incorporated by reference into this prospectus but not delivered with the prospectus, including exhibits which are specifically incorporated by reference into such documents. Requests should be directed to: Jeffrey W. Church, VP and Chief Financial Officer, 10220-L Old Columbia Road, Columbia, MD 21046-2364. In addition, all of the documents incorporated by reference into this prospectus may be accessed via the Internet at our website: http://www.celsion.com. Any other information contained on, or accessible through, our website does not constitute a part of this prospectus.

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, other than any underwriting discounts and commissions, payable by the registrant in connection with the offering of the common stock being registered. All the amounts shown are estimates, except for the Securities and Exchange Commission, or SEC, registration fee.

	Amoun	Amount to be Paid	
SEC Registration Fee	\$	537	
Legal fees and expenses		135,000	
Accounting fees and expenses		5,000	
Printing and miscellaneous expenses		8,463	
	\$	149,000	

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, or DGCL, provides that a Delaware corporation has the power generally to indemnify its current and former directors, officers, employees and other agents, each, a Corporate Agent, against expenses and liabilities (including amounts paid in settlement) in connection with any proceeding involving such person by reason of his 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 he 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 his 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 he 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 the 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 the 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

On June 17, 2010, the registrant entered into a common stock purchase agreement, or the Purchase Agreement, with Small Cap Biotech Value, LTD, or SCBV, providing for a financing arrangement that is sometimes referred to as a committed equity line financing facility. The Purchase Agreement provides that, upon the terms and subject to the conditions set forth in the Purchase Agreement, SCBV is committed to purchase up to \$15.0 million of 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 may 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, in no event may 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.

From time to time over the term of the Purchase Agreement, in the registrant's sole discretion, the registrant may present SCBV with draw down notices requiring SCBV to purchase a specified dollar amount of shares of the registrant's common stock, based on the price per share over 10 consecutive trading days, or the Draw Down Period, with the total dollar amount of each draw down subject to certain agreed-upon limitations based on the market price of the registrant's common stock at the time of the draw down (which may not be waived or modified). In addition, in the registrant's sole discretion, but subject to certain limitations, the registrant may require SCBV to purchase a percentage of the daily trading volume of the registrant's common stock for each trading day during the Draw Down Period. The registrant is permitted to present SCBV with up to 24 draw down notices during the term of the Purchase Agreement, with only one such draw down notice allowed per Draw Down Period and a minimum of five trading days required between each Draw Down Period.

Once presented with a draw down notice, SCBV is required to purchase a pro rata portion of the shares on each trading day during the trading period on which the daily volume weighted average price for the registrant's common stock exceeds a threshold price determined by the registrant for such draw down. The per share purchase price for these shares equals the daily volume weighted average price of the registrant's common stock on each date during the Draw Down Period on which shares are purchased, less a discount ranging from 5.00% to 6.00% (which range may not be modified), based on a minimum price the registrant specifies. If the daily volume weighted average price of the registrant's common stock falls below the threshold price on any trading day during a Draw Down Period, the Purchase Agreement provides that SCBV will not be required to purchase the pro-rata portion of shares of common stock allocated to that trading day. The obligations of SCBV under the Purchase

Agreement to purchase shares of the registrant's common stock may not be transferred to any other party.

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 the its common stock, or the 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, is exempt from registration under the Securities Act of 1933, as Amended, or the 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, or Reedland, served as the registrant's placement agent in connection with the financing arrangement contemplated by the Purchase Agreement. The registrant has 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 will be reduced to 0.5% of the aggregate dollar amount of common stock purchased. The registrant has agreed to indemnify and hold harmless Reedland against certain liabilities, including certain liabilities under the Securities Act.

Other Sales of Unregistered Securities

In January 2006, the registrant entered into a Stock Purchase Agreement with the registrant's founder and former officer and director, Dr. Augustine Y. Cheung, whereby the registrant sold to Dr. Cheung all of the issued and outstanding shares of capital stock of Celsion (Canada) Limited, or Canada, for \$20,000,000 as discussed below. The Company also agreed to provide certain services to Canada pursuant to a Transition Services Agreement between the Company and Canada.

Under the Stock Purchase Agreement, all of the capital stock of Canada was transferred to Dr. Cheung in exchange for a promissory note made by Dr. Cheung in favor of the registrant in the principal amount of \$1,500,000 to be paid over a period of up to 78 months and secured by a pledge of 100,536 restricted shares of the registrant's common stock owned by Dr. Cheung and his wife and the commitment of Canada, including its successors, to pay a 5% royalty on the net sales of Canada up to \$18,500,000. On November 25, 2008, Medifocus, Inc., or Medifocus, a company listed on the Toronto Exchange Company (TSXV-MFS), announced that it completed a transaction with Canada to purchase 100% of the issued and outstanding shares of Canada.

The terms of the note receivable from Dr. Cheung only specify an interest charge in the event that scheduled payments are in arrears. The \$1,500,000 note was therefore discounted at the prime rate in effect January 16, 2006 (7.25%) plus 1.0%, or 8.25%, and the balance, net of discount, of \$1,146,428 was recorded in the financial statements above. Interest income based on this receivable of \$21,319 was recorded for the year ended December 31, 2008. No interest income was recognized during 2009.

The registrant previously evaluated the likelihood that the receivable would be fully collected and as a result, an allowance was placed against the note to reduce the balance to the estimated net realizable value of the collateral underlying the note. As of December 31, 2008 and March 31, 2009, the registrant reduced the carrying value of the note to \$221,179. In June 2009, the registrant's management determined the note was uncollectable, wrote off the balance of \$221,179 and retained the 100,536 restricted shares of the registrant's common stock that was pledged as collateral. The 100,536 shares of common stock were valued at \$435,321, or \$4.33 per share, and were transferred to treasury stock at cost. The treasury stock's cost value of \$435,321 exceeded the net carrying value of the

\$221,179 note receivable and in June 2009 the registrant recorded the difference of \$214,142 as other income.

Item 16. Exhibits and Financial Statement Schedules

Exhibits.

Number
3.1.1 Certificate of Incorporation of Celsion (the "Company"), as amended, 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.

- 3.1.2 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.
- 3.1.3 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 October 18, 2002.
- 3.1.4 Certificate of Amendment of the Certificate of Incorporation effective and filed on February 27, 2006, incorporated herein by reference to Exhibit 3.1 to the Current Report on Form 8-K of the Company, filed March 1, 2006.
- 3.1.5 Certificate of Amendment of the Certificate of Incorporation effective and filed on July 1, 2009, incorporated herein by reference to Exhibit 3.1.4 to the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2009.
 - 3.2 By-laws of the Company, as amended, incorporated herein by reference to Exhibit 3.1 to the Current Report on Form 8-K of the Company, filed December 14, 2007.
 - 4.1 Form of Common Stock Certificate, par value \$0.01, incorporated herein by reference to Exhibit 4.1 to the Annual Report on Form 10-K of the Company for the year ended September 30, 2000.
- 4.2.1 Celsion Corporation and American Stock Transfer & Trust Company Rights Agreement dated as of August 15, 2002, incorporated herein by reference to Exhibit 99.1 to the Current Report on Form 8-K of the Company, filed August 21, 2002.
- 4.2.2 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 of the Company for the quarter ended June 30, 2004.
 - 4.3 Registration Rights Agreement, dated June 17, 2010, by and between Celsion Corporation and Small Cap Biotech Value, Ltd., incorporated herein by reference to Exhibit 4.1 to the Current Report on form 8-K of the Company, filed June 18, 2010.
- 10.1.1 Celsion Corporation 2004 Stock Incentive Plan, incorporated herein by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2004.
- 10.1.2 Celsion Corporation 2007 Stock Incentive Plan, as amended, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company filed June 29, 2010.

Number Description Form of Restricted Stock Agreement for Celsion Corporation 2004 Stock Incentive Plan, incorporated herein by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q of the Company for the quarter ended September 30, 2006. 10.1.4 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 of the Company for the quarter ended September 30, 10.1.5 Form of Restricted Stock Agreement for Celsion Corporation 2007 Stock Incentive Plan, incorporated herein by reference to Exhibit 10.1.5 to the Annual Report on Form 10-K of the Company for the year ended December 31, 10.1.6 Form of Stock Option Agreement for Celsion Corporation 2007 Stock Incentive Plan, incorporated herein by reference to Exhibit 10.1.6 to the Annual Report on Form 10-K of the Company for the year ended December 31, 2007. 10.2.1 Stock Option Grant Agreement effective July 29, 2005 between Celsion Corporation and Lawrence S. Olanoff, incorporated herein by reference to Exhibit 99.1 to the Current Report on Form 8-K of the Company, filed July 29, 2005. 10.2.7 Stock Option Grant Agreement dated October 3, 2006, incorporated herein by reference to Exhibit 10.2 to the Current Report on Form 8-K of the Company, filed October 10, 2006. 10.2.8 Stock Option Agreement effective January 3, 2007 between Celsion Corporation and Michael H. Tardugno, incorporated herein by reference Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed January 3, 2007. 10.4.3 Separation Agreement and General Release effective January 16, 2006, by and between Celsion Corporation and Dr. Augustine Y. Cheung incorporated by reference to Exhibit 10.3 to the Current Report on Form 8-K of the Company, filed January 18, 2006. 10.4.4 Stock Purchase Agreement made January 16, 2006, by and among Dr. Augustine Y. Cheung, the Company, and Celsion (Canada) Limited, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed January 18, 2006. 10.4.5 Consulting Agreement effective January 16, 2006, by and between Celsion Corporation and Dr. Augustine Y. Cheung, incorporated herein by reference to Exhibit 10.4 to the Current Report on Form 8-K of the Company, filed January 18, 2006. 10.4.6.1 Transition Services Agreement effective January 16, 2006, by and between the Company and Celsion (Canada)

- Limited, incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K of the Company, filed January 18, 2006.
- 10.4.6.2 First amendment to Transition Services Agreement entered into as of March 28, 2006 by and between Celsion Corporation and Celsion (Canada) Limited, incorporated herein by reference to Exhibit 10.24 to the Annual Report on Form 10-K of the Company for the year ended December 31, 2006.
 - 10.4.7 Employment Agreement, effective January 3, 2007, between Celsion Corporation and Mr. Michael H. Tardugno, incorporated herein by reference to Exhibit 99.1 to the Current Report on Form 8-K of the Company, filed December 21, 2006.
 - 10.4.9 Employment Offer Letter, dated November 21, 2008, between the Company and Sean F. Moran, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed November 26, 2008.

Number
10.4.10 Employment Agreement, effective March 1, 2009, between the Company and Michael H. Tardugno, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed February 19, 2008.

- 10.4.11 Employment Offer Letter, dated June 15, 2010, between the Company and Jeffrey W. Church, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed June 18, 2010.
 - 10.5 Patent License Agreement between the Company and Duke University dated November 10, 1999, incorporated herein by reference to Exhibit 10.9 to the Annual Report on Form 10-K of the Company for the year ended September 30, 1999 (Confidential Treatment Requested).
 - 10.6 Letter Agreement with Goldpac Investment Partners dated October 17, 2001, incorporated herein by reference to Exhibit 4.5 to the Form S-3 Registration Statement (File No. 333-82450), filed February 8, 2002.
 - 10.7 Letter dated May 8, 2002, from Legg Mason Wood Walker, Incorporated ("Legg Mason") to the Company regarding retention of Legg Mason as financial advisor, incorporated herein by reference to Exhibit 10.30 to the Annual Report on Form 10-K of the Company for the year ended September 30, 2002.
 - 10.8 License Agreement dated July 18, 2003, between the Company and Duke University. (Confidential treatment requested.), incorporated herein by reference to Exhibit 4.3 to the Registration Statement of the Company (File No. 333-108318), filed August 28, 2003.
 - 10.9 Distribution Agreement effective as of 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 January 22, 2003.
- 10.10.1 Transaction Agreement effective as of 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 January 22, 2003. (Confidential treatment requested.)
- 10.10.2 First Amendment to Transaction Agreement effective as of 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 August 9, 2005.
- 10.11.1 Convertible Secured Promissory Note dated as of 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 of the Company, filed August 9, 2005.
- 10.11.2 Convertible Secured Promissory Note dated July 28, 2006, between Celsion Corporation and Boston Scientific Corporation incorporated herein by reference to Exhibit 99.2 to the Current Report on Form 8-K of the Company, filed August 6, 2006.
 - 10.12 Settlement and License Agreement dated February 7, 2007, by and among Celsion Corporation, American Medical Systems and AMS Research Corporation, incorporated herein by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q of the Company for the quarter ended March 31, 2007.
 - 10.13 Asset Purchase Agreement, dated as of 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 of the Company, filed April 18, 2007.

Number Description 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. 10.13.2 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 of the Company, filed June 2, 2009. 10.14 Loan and Security Agreement, dated as of 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 of the Company, filed on November 14, 2007. 10.15 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 of the Company, filed December 13, 2007. 10.16 Development, Product Supply and Commercialization Agreement, effective December 5, 2008, by and between the Company and Yakult Honsha Co., Ltd., herein by reference to Exhibit 10.15 to the Annual Report on Form 10-K of the Company for the Year Ended December 31, 2008. (Confidential treatment requested.) 10.17 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 of the Company, filed September 28, 2009. 10.17.1 Form of Common Stock Warrant, incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K of the Company, filed September 28, 2009. 10.17.2 Form of Subscription Agreement, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed September 28, 2009. 10.17.3 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 of the Company, filed September 28, 2009. 10.18 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 of the Company, filed June 18, 2010. 5.1 Opinion of Venable LLP, previously filed as Exhibit 5.1 to the Company's Registration Statement on Form S-1 (File No. 333-168314), filed July 26, 2010 and incorporated by reference herein.

- 23.1 Consent of Venable LLP (included in Exhibit 5.1)
- 23.2 Consent of Stegman & Company
- 24.1 Power of Attorney, previously filed as Exhibit 24.1 to the Company's Registration Statement on Form S-1 (File No. 333-168314), filed July 26, 2010 and incorporated by reference herein.

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 Commission 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 of 1933, 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) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the 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.
 - (c) The undersigned registrant hereby undertakes that:
 - (1) For purposes of determining any liability under the Securities Act of 1933, 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 of 1933, 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 August 5, 2010.

CELSION CORPORATION

By: /s/ MICHAEL H. TARDUGNO

Name: Michael H. Tardugno

Title: President and Chief Executive Officer

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.

<u>Name</u>	<u>Position</u>	<u>Date</u>	
/s/ MICHAEL H. TARDUGNO (Michael H. Tardugno)	President and Chief Executive Officer (Principal Executive Officer) and Director	August 5, 2010	
/s/ JEFFREY W. CHURCH	Vice President and Chief Financial Officer	August 5, 2010	
(Jeffrey W. Church)	— (Principal Financial Officer)		
/s/ TIMOTHY J. TUMMINELLO	Controller and Chief Accounting Officer	August 5, 2010	
(Timothy J. Tumminello)			
*	Chairman of the Board, Director	August 5, 2010	
(Max E. Link, PhD.)			
*	Director	August 5, 2010	
(Gregory Weaver)			
*	Director	August 5, 2010	
(Augustine Chow, PhD.)			
*By: /s/ JEFFREY W. CHURCH			
Jeffrey W. Church Attorney-in-Fact			
	II-9		

EXHIBIT INDEX

Number Description

3.1.1 Certificate of Incorporation of Celsion (the "Company"), as amended, 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.
- 3.1.2 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.
- 3.1.3 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 October 18, 2002.
- 3.1.4 Certificate of Amendment of the Certificate of Incorporation effective and filed on February 27, 2006, incorporated herein by reference to Exhibit 3.1 to the Current Report on Form 8-K of the Company, filed March 1, 2006.
- 3.1.5 Certificate of Amendment of the Certificate of Incorporation effective and filed on July 1, 2009, incorporated herein by reference to Exhibit 3.1.4 to the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2009.
 - 3.2 By-laws of the Company, as amended, incorporated herein by reference to Exhibit 3.1 to the Current Report on Form 8-K of the Company, filed December 14, 2007.
 - 4.1 Form of Common Stock Certificate, par value \$0.01, incorporated herein by reference to Exhibit 4.1 to the Annual Report on Form 10-K of the Company for the year ended September 30, 2000.
- 4.2.1 Celsion Corporation and American Stock Transfer & Trust Company Rights Agreement dated as of August 15, 2002, incorporated herein by reference to Exhibit 99.1 to the Current Report on Form 8-K of the Company, filed August 21, 2002.
- 4.2.2 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 of the Company for the quarter ended June 30, 2004.
 - 4.3 Registration Rights Agreement, dated June 17, 2010, by and between Celsion Corporation and Small Cap Biotech Value, Ltd., incorporated herein by reference to Exhibit 4.1 to the Current Report on form 8-K of the Company, filed June 18, 2010.
- 10.1.1 Celsion Corporation 2004 Stock Incentive Plan, incorporated herein by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q of the Company for the quarter ended June 30, 2004.
- 10.1.2 Celsion Corporation 2007 Stock Incentive Plan, as amended, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company filed June 29, 2010.
- 10.1.3 Form of Restricted Stock Agreement for Celsion Corporation 2004 Stock Incentive Plan, incorporated herein by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q of the Company for the quarter ended September 30, 2006.
- 10.1.4 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 of the Company for the quarter ended September 30, 2006.

Number Description Form of Restricted Stock Agreement for Celsion Corporation 2007 Stock Incentive Plan, incorporated herein by reference to Exhibit 10.1.5 to the Annual Report on Form 10-K of the Company for the year ended December 31, 2007. 10.1.6 Form of Stock Option Agreement for Celsion Corporation 2007 Stock Incentive Plan, incorporated herein by reference to Exhibit 10.1.6 to the Annual Report on Form 10-K of the Company for the year ended December 31, 10.2.1 Stock Option Grant Agreement effective July 29, 2005 between Celsion Corporation and Lawrence S. Olanoff, incorporated herein by reference to Exhibit 99.1 to the Current Report on Form 8-K of the Company, filed July 29, 2005. 10.2.7 Stock Option Grant Agreement dated October 3, 2006, incorporated herein by reference to Exhibit 10.2 to the Current Report on Form 8-K of the Company, filed October 10, 2006. 10.2.8 Stock Option Agreement effective January 3, 2007 between Celsion Corporation and Michael H. Tardugno, incorporated herein by reference Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed January 3, 2007. 10.4.3 Separation Agreement and General Release effective January 16, 2006, by and between Celsion Corporation and Dr. Augustine Y. Cheung incorporated by reference to Exhibit 10.3 to the Current Report on Form 8-K of the Company, filed January 18, 2006. 10.4.4 Stock Purchase Agreement made January 16, 2006, by and among Dr. Augustine Y. Cheung, the Company, and Celsion (Canada) Limited, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed January 18, 2006. 10.4.5 Consulting Agreement effective January 16, 2006, by and between Celsion Corporation and Dr. Augustine Y. Cheung, incorporated herein by reference to Exhibit 10.4 to the Current Report on Form 8-K of the Company, filed January 18, 2006. 10.4.6.1 Transition Services Agreement effective January 16, 2006, by and between the Company and Celsion (Canada) Limited, incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K of the Company, filed January 18, 2006. 10.4.6.2 First amendment to Transition Services Agreement entered into as of March 28, 2006 by and between Celsion Corporation and Celsion (Canada) Limited, incorporated herein by reference to Exhibit 10.24 to the Annual Report on Form 10-K of the Company for the year ended December 31, 2006. 10.4.7 Employment Agreement, effective January 3, 2007, between Celsion Corporation and Mr. Michael H. Tardugno, incorporated herein by reference to Exhibit 99.1 to the Current Report on Form 8-K of the Company, filed December 21, 2006. 10.4.9 Employment Offer Letter, dated November 21, 2008, between the Company and Sean F. Moran, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed November 26, 2008.

10.4.10 Employment Agreement, effective March 1, 2009, between the Company and Michael H. Tardugno, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed February 19, 2008.

10.4.11 Employment Offer Letter, dated June 15, 2010, between the Company and Jeffrey W. Church, incorporated herein by

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

reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed June 18, 2010.

September 30, 1999 (Confidential Treatment Requested).

Number Description

10.6 Letter Agreement with Goldpac Investment Partners dated October 17, 2001, incorporated herein by reference to Exhibit 4.5 to the Form S-3 Registration Statement (File No. 333-82450), filed February 8, 2002.

- 10.7 Letter dated May 8, 2002, from Legg Mason Wood Walker, Incorporated ("Legg Mason") to the Company regarding retention of Legg Mason as financial advisor, incorporated herein by reference to Exhibit 10.30 to the Annual Report on Form 10-K of the Company for the year ended September 30, 2002.
- 10.8 License Agreement dated July 18, 2003, between the Company and Duke University. (Confidential treatment requested.), incorporated herein by reference to Exhibit 4.3 to the Registration Statement of the Company (File No. 333-108318), filed August 28, 2003.
- 10.9 Distribution Agreement effective as of 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 January 22, 2003.
- 10.10.1 Transaction Agreement effective as of 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 January 22, 2003. (Confidential treatment requested.)
- 10.10.2 First Amendment to Transaction Agreement effective as of 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 August 9, 2005.
- 10.11.1 Convertible Secured Promissory Note dated as of 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 of the Company, filed August 9, 2005.
- 10.11.2 Convertible Secured Promissory Note dated July 28, 2006, between Celsion Corporation and Boston Scientific Corporation incorporated herein by reference to Exhibit 99.2 to the Current Report on Form 8-K of the Company, filed August 6, 2006.
 - 10.12 Settlement and License Agreement dated February 7, 2007, by and among Celsion Corporation, American Medical Systems and AMS Research Corporation, incorporated herein by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q of the Company for the quarter ended March 31, 2007.
- 10.13 Asset Purchase Agreement, dated as of 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 of the Company, filed April 18, 2007.
- 10.13.1 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.
- 10.13.2 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 of the Company, filed June 2, 2009.
 - 10.14 Loan and Security Agreement, dated as of 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 of the Company, filed on November 14, 2007.
 - 10.15 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 of the Company, filed December 13, 2007.

Number Description Development, Product Supply and Commercialization Agreement, effective December 5, 2008, by and between the Company and Yakult Honsha Co., Ltd., herein by reference to Exhibit 10.15 to the Annual Report on Form 10-K of the Company for the Year Ended December 31, 2008. (Confidential treatment requested.) 10.17 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 of the Company, filed September 28, 2009. 10.17.1 Form of Common Stock Warrant, incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K of the Company, filed September 28, 2009. 10.17.2 Form of Subscription Agreement, incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed September 28, 2009. 10.17.3 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 of the Company, filed September 28, 2009. 10.18 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 of the Company, filed June 18, 2010. 5.1 Opinion of Venable LLP, previously filed as Exhibit 5.1 to the Company's Registration Statement on Form S-1 (File No. 333-168314), filed July 26, 2010 and incorporated by reference herein. 23.1 Consent of Venable LLP (included in Exhibit 5.1) 23.2 Consent of Stegman & Company 24.1 Power of Attorney, previously filed as Exhibit 24.1 to the Company's Registration Statement on Form S-1 (File No. 333-168314), filed July 26, 2010 and incorporated by reference herein.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTS

We consent to the incorporation by reference in this registration statement of Celsion Corporation on Amendment No. 1 of Form S-1 of our report dated March 16, 2010, related to the financial statements of Celsion Corporation included in its Annual Report on Form 10-K for the year ended December 31, 2009, filed with the Securities and Exchange Commission, and to the reference of our firm under the heading "Experts" in the Prospectus, which is part of the Registration Statement.

/s/ Stegman & Company	
Baltimore, Maryland	
August 5, 2010	