Celsion CORP
Form S-1
July 26, 2010

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As filed with the Securities and Exchange Commission on July 26, 2010

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-1

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

CELSION CORPORATION

(Exact name of Registrant as specified in its charter)

Delaware	**2834**	**52-1256615**
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(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

(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: ý

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

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

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

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

Large accelerated filer o	Accelerated filer o	Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company ý

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Offering Price Per Share(2)	Proposed Maximum Aggregate Offering Price(2)	Amount of Registration Fee
Common Stock, par value $0.01 per share	2,444,434	$3.08	$7,528,856	$537

(1) Pursuant to Rule 416 under the Securities Act, the shares being registered hereunder include such indeterminate number of shares of common stock as may be issuable with respect to the shares being registered hereunder as a result of stock splits, stock dividends or similar transactions.

(2) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457 promulgated under the Securities Act. The offering price per share and the aggregate offering price are based upon the average of the high and low prices of the registrant's common stock as reported on The NASDAQ Capital Market on July 21, 2010.

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.

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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 July 26, 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 July 21, 2010, the last reported sale price of our common stock on The NASDAQ Capital Market was $3.10.

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.

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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.

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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

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(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

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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).

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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

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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.

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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 $88.3 at March 31, 2010. For the year ended December 31, 2009 we incurred a net loss of $15.2 million, and for the quarter ended March 31, 2010, we incurred a net loss of $6.1 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 March 31, 2010, we had approximately $10.4 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

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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

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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

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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.

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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.

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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 $4.69 and a low price of $2.76 in the period beginning January 1, 2010 and ending March 31, 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

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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.

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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.

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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 Quarter (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 July 21, 2010 was $3.10 per share. As of July 21, 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 July 21, 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

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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;

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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 liquid