UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended March 31, 2022

OR

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

For the transition period from _____ to _____

Commission file number: 001-15911

CELSION CORPORATION
(Exact name of Registrant as specified in its charter)

Delaware	**52-1256615**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)

997 Lenox Drive, Suite 100,
Lawrenceville, **NJ 08648**
(Address of principal executive offices)

(609) 896-9100
(Registrant's telephone number, including area code)

NA
(Former name, former address and former fiscal year, if changed since last report)

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

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common stock, par value $0.01 per share	CLSN	Nasdaq Capital Market

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

Indicate by check mark whether the Registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit such files). Yes ☒ No ☐

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

Large accelerated filer ☐
Non-accelerated filer ☐
Emerging growth company ☐
Accelerated filer ☐
Smaller reporting company ☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

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

As of May 13, 2022, the Registrant had 7,098,741 shares of common stock, $0.01 par value per share, outstanding.

CELSION CORPORATION
QUARTERLY REPORT ON
FORM 10-Q

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Cautionary Note Regarding Forward-Looking Statements

This report includes "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). All statements other than statements of historical fact are "forward-looking statements" for purposes of this Quarterly Report on Form 10-Q, including, without limitation, any projections of earnings, revenue or other financial items, any statements of the plans and objectives of management for future operations (including, but not limited to, pre-clinical development, clinical trials, manufacturing and commercialization), uncertainties and assumptions regarding the impact of the COVID-19 pandemic on our business, operations, clinical trials, supply chain, strategy, goals and anticipated timelines, any statements concerning proposed drug candidates, potential therapeutic benefits, or other new products or services, any statements regarding future economic conditions or performance, any changes in the course of research and development activities and in clinical trials, any possible changes in cost and timing of development and testing, capital structure, financial condition, working capital needs and other financial items, and any statements of assumptions underlying any of the foregoing. In some cases, forward-looking statements can be identified by the use of terminology such as "may," "will," "expects," "plans," "anticipates," "estimates," "potential" or "continue," or the negative thereof or other comparable terminology. 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.

Our future financial condition and results of operations, as well as any forward-looking statements, are subject to inherent risks and uncertainties, including, but not limited to, the inherent uncertainty in the drug development process, our ability to raise additional capital to fund our planned future operations, our ability to obtain or maintain FDA and foreign regulatory approvals for our drug candidates, potential impact of the outbreak, duration and severity of the COVID-19 pandemic on our business, our ability to enroll patients in our clinical trials, risks relating to third parties conduct of our clinical trials, risks relating to government, private health insurers and other third-party payers coverage or reimbursement, risks relating to commercial potential of a drug candidate in development, changes in technologies for the treatment of cancer, impact of development of competitive drug candidates by others, risks relating to intellectual property, volatility in the market price of our common stock, potential inability to maintain compliance with The Nasdaq Marketplace Rules and the impact of adverse capital and credit market conditions. These and other risks, assumptions are described in Item 1A. Risk Factors in our Annual Report on Form 10-K for the fiscal year ended December 31, 2021 and in other documents that we file or furnish with the SEC. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those indicated or anticipated by such forward-looking statements. All forward-looking statements speak only as of the date they are made and we do not intend to update any forward-looking statements, except as required by law or applicable regulations. 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 where the context otherwise requires, in this Quarterly Report on Form 10-Q, the "Company," "Celsion," "we," "us," and "our" refer to Celsion Corporation, a Delaware corporation and its wholly owned subsidiaries, CLSN Laboratories, Inc., a Delaware corporation and Celsion GmbH, A Swiss corporation.

Trademarks

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

PART I: FINANCIAL INFORMATION

Item 1. FINANCIAL STATEMENTS

CELSION CORPORATION

CONDENSED CONSOLIDATED BALANCE SHEETS

	March 31, 2022 (Unaudited)	December 31, 2021
ASSETS		
Current assets:		
Cash and cash equivalents	$ 28,362,139	$ 19,586,272
Investment in debt securities - available for sale, at fair value	12,943,814	29,803,095
Accrued interest receivable on investment securities	15,646	108,844
Advances and deposits on clinical programs and other current assets	2,544,885	2,447,413
Total current assets	**43,866,484**	**51,945,624**
Property and equipment (at cost, less accumulated depreciation and amortization)	**487,530**	**477,011**
Other assets:		
Money market investments, restricted cash	6,000,000	6,000,000
Deferred income tax asset	–	1,383,446
In-process research and development, net	13,366,234	13,366,234
Operating lease right-of-use assets, net	562,377	690,995
Deposits and other assets	58,761	183,489
Total other assets	**19,987,372**	**21,624,164**
Total assets	**$ 64,341,386**	**$ 74,046,799**

See accompanying notes to the condensed consolidated financial statements.

CELSION CORPORATION

CONDENSED CONSOLIDATED
BALANCE SHEETS
(Continued)

	March 31, 2022 (Unaudited)	December 31, 2021
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable – trade	$ 3,473,524	$ 2,547,251
Other accrued liabilities	2,283,513	3,173,537
Operating lease liability - current portion	516,545	548,870
Deferred revenue - current portion	375,000	500,000
Total current liabilities	**6,648,582**	**6,769,658**
Earn-out milestone liability	5,396,000	5,396,000
Notes payable – non-current portion, net of deferred financing costs	5,899,776	5,854,461
Operating lease liability - non-current portion	131,819	230,749
Total liabilities	**18,076,177**	**18,250,868**
Commitments and contingencies	–	–
Stockholders' equity:		
Preferred Stock - $0.01 par value (100,000 shares authorized, and no shares issued or outstanding at March 31, 2022 and December 31, 2021)	–	–
Common stock - $0.01 par value (112,500,000 shares authorized; 5,770,489 and 5,770,538 shares issued at March 31, 2022 and December 31, 2021, respectively; and 5,770,467 and 5,770,516 shares outstanding at March 31, 2022 and December 31, 2021, respectively)	57,705	57,705
Additional paid-in capital	389,595,593	388,600,979
Accumulated other comprehensive loss	(58,978)	(7,974)
Accumulated deficit	(343,243,923)	(332,769,591)
Total stockholders' equity before treasury stock	**46,350,397**	**55,881,119**
Treasury stock, at cost (22 shares at March 31, 2022 and December 31, 2021)	(85,188)	(85,188)
Total stockholders' equity	**46,265,209**	**55,795,931**
Total liabilities and stockholders' equity	**$ 64,341,386**	**$ 74,046,799**

See accompanying notes to the condensed consolidated financial statements.

CELSION CORPORATION

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)

	Three Months Ended March 31,	
	2022	**2021**
Technology development and licensing revenue	**$ 125,000**	**$ 125,000**
Operating expenses:		
Research and development	3,095,420	2,571,573
General and administrative	2,871,557	2,936,771
Total operating expenses	**5,966,977**	**5,508,344**
Loss from operations	**(5,841,977)**	**(5,383,344)**
Other income (expense):		
Loss from change in valuation of earn-out milestone liability	–	(151,000)
Investment income	12,104	2,411
Interest expense on preferred stock	(4,551,567)	–
Interest expense on loan facility	(94,690)	(157,614)
Other income	1,798	544
Total other income (expense), net	**(4,632,355)**	**(305,659)**
Net loss	**$ (10,474,332)**	**$ (5,689,003)**
Net loss per common share		
Basic and diluted	**$ (1.82)**	**$ (3.31)**
Weighted average shares outstanding		
Basic and diluted	**5,770,467**	**1,720,290**

See accompanying notes to the condensed consolidated financial statements.

CELSION CORPORATION

CONDENSED CONSOLIDATED
STATEMENTS OF COMPREHENSIVE LOSS
(Unaudited)

	Three Months Ended March 31,	
	2022	**2021**
Net loss	**$ (10,474,332)**	**$ (5,689,003)**
Changes in:		
Reclassification of realized loss on debt securities recognized in investment income, net	2,338	–
Unrealized (loss) gain on investment securities	(53,342)	1,785
Other comprehensive (loss) income	(51,004)	1,785
Comprehensive loss	**$ (10,525,336)**	**$ (5,687,218)**

See accompanying notes to the condensed consolidated financial statements.

CELSION CORPORATION

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

	Three Months Ended March 31,	
	2022	**2021**
Cash flows from operating activities:		
Net loss	$ (10,474,332)	$ (5,689,003)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	173,989	190,595
Change in fair value of earn-out milestone liability	–	151,000
Recognition of deferred revenue	(125,000)	(125,000)
Stock-based compensation	994,614	1,579,326
Deferred income tax asset	1,383,446	1,845,823
Amortization of deferred finance charges and debt discount associated with notes payable	45,315	37,301
Net changes in:		
Accrued interest on investment securities	93,198	–
Receivable on sale of net operating losses	–	(1,845,823)
Advances, deposits, and other current assets	27,256	17,500
Accounts payable and accrued liabilities	(95,006)	(898,581)
Net cash used in operating activities:	**(7,976,520)**	**(4,736,862)**
Cash flows from investing activities:		
Purchases of investment securities	(2,966,723)	(14,998,260)
Proceeds from sale and maturity of investment securities	19,775,000	–
Purchases of property and equipment	(55,890)	(126,597)
Net cash provided by (used in) investing activities	**16,752,387**	**(15,124,857)**
Cash flows from financing activities:		
Proceeds from redeemable convertible preferred stock offering	28,500,000	–
Payment upon redemption of redeemable convertible preferred stock	(28,500,000)	–
Proceeds from sale of common stock equity, net of issuance costs	–	38,943,478
Proceeds from exercise of common stock warrants	–	1,508,666
Proceeds from exercise of options to purchase common stock	–	4,725
Net cash provided by financing activities	**–**	**40,456,869**
Net change in cash, cash equivalents and restricted cash	**8,775,867**	**20,595,150**
Cash, cash equivalents and restricted cash at beginning of period	**25,586,272**	**17,164,177**
Cash, cash equivalents and restricted cash at end of period	**$ 34,362,139**	**$ 37,759,327**

See accompanying notes to the condensed consolidated financial statements.

CELSION CORPORATION

CONDENSED CONSOLIDATED
STATEMENTS OF CASH FLOWS (continued)
(Unaudited)

	Three Months Ended March 31,	
	2022	**2021**
Supplemental disclosures of cash flow information:		
Interest paid on note payable and redemption of convertible redeemable preferred stock	$ 4,211,856	$ 120,313
Cash paid for amounts included in measurement of lease liabilities:		
Operating cash flows from lease payments	$ 149,573	$ 130,595
Realized and unrealized (losses) gains, net, on investment securities	$ (51,004)	$ 1,785

See accompanying notes to the condensed consolidated financial statements.

CELSION CORPORATION

CONDENSED CONSOLIDATED
STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
(Unaudited)

THREE MONTHS ENDED MARCH 31, 2022 AND 2021

	Common Stock Outstanding		Additional Paid in	Treasury Stock		Accumulated Other Comprehensive	Accumulated	Total Stockholders'
	Shares	Amount	Capital	Shares	Amount	Loss	Deficit	Equity
Balance at January 1, 2022	5,770,516	$ 57,705	$388,600,979	22	$(85,188)	$ (7,974)	$(332,769,591)	$ 55,795,931
Net loss	-	-	-	-	-	-	(10,474,332)	(10,474,332)
Net effect of reverse stock split	(49)	-	-	-	-	-	-	-
Realized and unrealized gains and losses, net, on investments securities	-	-	-	-	-	(51,004)	-	(51,004)
Stock-based compensation expense	-	-	994,614	-	-	-	-	994,614
Balance at March 31, 2022	5,770,467	$ 57,505	$389,595,593	22	$(85,188)	$ (58,978)	$(343,243,923)	$ 46,265,209

	Common Stock Outstanding		Additional Paid in	Treasury Stock		Accumulated Other Comprehensive	Accumulated	Total Stockholders'
	Shares	Amount	Capital	Shares	Amount	Income	Deficit	Equity
Balance at January 1, 2021	2,713,402	$ 27,134	$330,669,476	22	$(85,188)	$ -	$(312,000,341)	$ 18,611,081
Net loss	-	-	-	-	-	-	(5,689,003)	(5,689,003)
Sale of equity through equity financing facilities	2,206,272	22,063	38,921,415	-	-	-	-	38,943,478
Shares issued upon exercise of common stock warrants, net of fees	81,111	811	1,507,855	-	-	-	-	1,508,666
Shares issued upon exercise of options to purchase common stock	500	5	4,720	-	-	-	-	4,725
Realized and unrealized gains and losses, net, on investments securities	-	-	-	-	-	1,785	-	1,785
Stock-based compensation expense	-	-	1,579,326	-	-	-	-	1,579,326
Balance at March 31, 2021	5,001,285	$ 50,013	$372,682,792	22	$(85,188)	$ 1,785	$(317,689,344)	$ 54,960,058

See accompanying notes to the condensed consolidated financial statements.

CELSION CORPORATION
NOTES TO THE CONDENSED CONSOLIDATED
FINANCIAL STATEMENTS
(UNAUDITED)

FOR THE THREE MONTHS ENDED MARCH 31, 2022 AND 2021

Note 1. Business Description

Celsion Corporation ("Celsion" and the "Company") is a fully integrated, clinical stage biotechnology company focused on advancing a portfolio of innovative treatments including DNA-based immunotherapies, next generation vaccines and directed chemotherapies through clinical trials and eventual commercialization. The Company's product pipeline includes GEN-1, a DNA-based immunotherapy for the localized treatment of ovarian cancer and ThermoDox®, a proprietary heat-activated liposomal encapsulation of doxorubicin, currently under investigator-sponsored development for several cancer indications. Celsion has two feasibility stage platform technologies for the development of novel nucleic acid-based immunotherapies and next generation vaccines and other anti-cancer DNA or RNA therapies. Both are novel synthetic, non-viral vectors with demonstrated capability in nucleic acid cellular transfection.

Note 2. Basis of Presentation

The accompanying unaudited condensed consolidated financial statements, which include the accounts of the Company and its wholly owned subsidiaries, CLSN Laboratories, Inc. and Celsion, GmbH, have been prepared in accordance with generally accepted accounting principles in the United States (GAAP) for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. All significant intercompany balances and transactions have been eliminated in consolidation. During the quarter, there have been no changes to the Company's accounting policies. Certain information and disclosures normally included in financial statements prepared in accordance with GAAP have been condensed or omitted pursuant to such rules and regulations.

In the opinion of management, all adjustments, consisting only of normal recurring accruals considered necessary for a fair presentation, have been included in the accompanying unaudited condensed consolidated financial statements. Operating results for the three-month periods ended March 31, 2022 and 2021 are not necessarily indicative of the results that may be expected for any other interim period(s) or for any full year. For further information, refer to the consolidated financial statements and notes thereto included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2021 filed with the Securities and Exchange Commission (SEC) on March 31, 2022.

The preparation of financial statements in conformity with GAAP requires management to make judgments, estimates, and assumptions that affect the amount reported in the Company's financial statements and accompanying notes. Actual results could differ materially from those estimates. Events and conditions arising subsequent to the most recent balance sheet date have been evaluated for their possible impact on the financial statements and accompanying notes. The Company continues to monitor the impact of the COVID-19 pandemic on its financial condition and results of operations, along with the valuation of its long-term assets, intangible assets, and goodwill. The effect of this matter could potentially have an impact on the valuation of such assets in the future. The COVID-19 pandemic is discussed in more detail in Note 3 to the financial statements.

Note 3. Financial Condition and Business Plan

Since inception, the Company has incurred substantial operating losses, principally from expenses associated with the Company's research and development programs, clinical trials conducted in connection with the Company's product candidates, and applications and submissions to the U.S. Food and Drug Administration. The Company has not generated significant revenue and has incurred significant net losses in each year since our inception. As of March 31, 2022, the Company has incurred approximately $343 million of cumulative net losses. As of March 31, 2022, the Company had $47.3 million in cash and cash equivalents, short-term investments, interest receivable and restricted cash. The Company has substantial future capital requirements to continue its research and development activities and advance its product candidates through various development stages. The Company believes these expenditures are essential for the commercialization of its technologies.

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

In January 2020, the World Health Organization declared an outbreak of coronavirus, COVID-19, to be a "Public Health Emergency of International Concern," and the U.S. Department of Health and Human Services declared a public health emergency to aid the U.S. healthcare community in responding to COVID-19. This virus has spread to over 200 countries, including the U.S. Governments and businesses around the world have taken unprecedented actions to mitigate the spread of COVID-19, including, but not limited to, shelter-in-place orders, quarantines, significant restrictions on travel, as well as restrictions that prohibit many employees from going to work. Uncertainty with respect to the economic impacts of the pandemic has introduced significant volatility in the financial markets. The Company did not observe significant impacts on its business or results of operations during 2021 or thus far in 2022 due to the global emergence of COVID-19. While the extent to which COVID-19 impacts the Company's future results will depend on future developments, the pandemic and associated economic impacts could result in a material impact to the Company's future financial condition, results of operations and cash flows.

The Company's ability to raise additional capital may be adversely impacted by potential worsening global economic conditions and the recent disruptions to, and volatility in, financial markets in the U.S. and worldwide resulting from the ongoing COVID-19 pandemic. The disruptions caused by COVID-19 may also disrupt the clinical trials process and enrollment of patients. This may delay commercialization efforts. The Company continues to monitor its operating activities in light of these events, and it is reasonably possible that the virus could have a negative effect on the Company's financial condition and results of operations. The specific impact, if any, is not readily determinable as of the date of the Financial Statements.

The actual amount of funds the Company will need to operate is subject to many factors, some of which are beyond the Company's control. These factors include the following:

- the progress of research activities;
- the number and scope of research programs;
- the progress of preclinical and clinical development activities;
- the progress of the development efforts of parties with whom the Company has entered into research and development agreements;
- the costs associated with additional clinical trials of product candidates;
- the ability to maintain current research and development licensing arrangements and to establish new research and development and licensing arrangements;
- the ability to achieve milestones under licensing arrangements;
- the costs involved in prosecuting and enforcing patent claims and other intellectual property rights; and
- the costs and timing of regulatory approvals.

On July 13, 2020, the Company announced that it has received a recommendation from the independent DMC to consider stopping the global Phase III OPTIMA Study of ThermoDox® in combination with RFA for the treatment of HCC, or primary liver cancer. The recommendation was made following the second pre-planned interim safety and efficacy analysis by the DMC on July 9, 2020. The DMC's analysis found that the pre-specified boundary for stopping the trial for futility of 0.900 was crossed with an actual value of 0.903. The Company followed the advice of the DMC and considered its options to either stop the study or continue to follow patients after a thorough review of the data, and an evaluation of the probability of success. On February 11, 2021, the Company issued a letter to shareholders stating that the Company was notifying all clinical sites to discontinue following patients in the OPTIMA Study.

Since 2018, the Company has annually submitted applications to sell a portion of the Company's State of New Jersey net operating losses as part of the Technology Business Tax Certificate Program sponsored by The New Jersey Economic Development Authority. Under the program, emerging biotechnology companies with unused New Jersey NOLs and unused research and development credits are allowed to sell these benefits to other New Jersey-based companies. In 2018 and 2019, the Company sold cumulative New Jersey NOLs from 2011 to 2018 totalling $13 million and received net proceeds of $12.2 million. As part of the Technology Business Tax Certificate Program, the Company sold $1.5 million and $2.0 million of its New Jersey NOLs in 2021 and 2020, respectively. The sale of these net operating losses resulted in net proceeds to the Company of approximately $1.4 million in 2021 and $1.9 million in 2020. During 2021, the New Jersey State Legislature increased the maximum lifetime benefit per company from $15 million to $20 million, which will allow the Company to participate in this funding program in future years for up to an additional $3.5 million in net operating losses under this maximum lifetime benefit.

In June 2018, the Company entered into a Credit Agreement with Horizon Technology Finance Corporation ("Horizon") that provided $10 million in capital (the "Horizon Credit Agreement"). The obligations under the Horizon Credit Agreement are secured by a first-priority security interest in substantially all assets of Celsion other than intellectual property assets. Payments under the loan agreement are interest only (calculated based on one-month LIBOR plus 7.625%) for the first 24 months through July 2020, followed by a 21-month amortization period of principal and interest starting on August 1, 2020 and ending through the scheduled maturity date on April 1, 2023. On August 28, 2020, in connection with an Amendment to the Horizon Credit Agreement, Celsion repaid $5 million of the $10 million loan and $0.2 million in related end of term charges, and the remaining $5 million in obligations were restructured. As more fully discussed in Note 11 to the Financial Statements, in June 2021, the Company entered into a $10 million loan facility with Silicon Valley Bank ("SVB"). The Company immediately used $6 million from this facility to retire all outstanding indebtedness with Horizon and deposited $6 million with SVB as restricted cash as discussed in more detail in Note 5. The remaining $4 million under the SVB loan facility ("SVB Loan Facility") will be available to be drawn down up to 12 months after closing. The funding is in the form of money market secured indebtedness bearing interest at a calculated WSJ Prime-based variable rate (currently 3.25%). Payments under the loan agreement are interest only for the first 24 months after loan closing, followed by a 24-month amortization period of principal and interest through the scheduled maturity date.

With $47.3 million in cash and cash equivalents, short-term investments, interest receivable and restricted cash, coupled with $7.0 million of gross proceeds received in a registered direct offering in April 2022 and approximately $3.5 million of future planned sales of the Company's State of New Jersey net operating losses, the Company believes it has sufficient capital resources to fund its operations into the second quarter of 2025.

The Company has based its estimates on assumptions that may prove to be wrong. The Company may need to obtain additional funds sooner or in greater amounts than it currently anticipates. Potential sources of financing include strategic relationships, public or private sales of the Company's shares or debt, the sale of the Company's New Jersey NOLs and other sources. If the Company raises funds by selling additional shares of common stock or other securities convertible into common stock, the ownership interest of existing stockholders may be diluted. See Note 12 for a discussion of the Company's issuance and redemption of Series A Preferred Stock and Series B Preferred Stock as well as receiving gross proceeds of $7.0 million dollars through selling approximately 1.3 million shares of common stock in a registered direct offering during April 2022.

Note 4. New Accounting Pronouncements

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

In connection with the upcoming elimination of the London Inter-bank Offered Rate, ("LIBOR") and other reference interest rates, the FASB issued ASU 2020-04, *Reference Rate Reform (Topic 848) Facilitation of the Effects of Reference Reform on Financial Reporting*. ASU 2020-04, which is available for contract modifications and hedging relationship modifications entered into or evaluated before December 31, 2022, provides certain practical expedients related to simplifying the accounting for contract modifications resulting from the change in terms from LIBOR to a new required interest rate benchmark. The Company does not believe this pronouncement will have a material impact on its consolidated financial statements.

In May 2021, the FASB issued ASU No. 2021-04, "Earnings Per Share (Topic 260), Debt-Modifications and Extinguishments (Subtopic 470-50), Compensation-Stock Compensation (Topic 718), and Derivatives and Hedging-Contracts in Entity's Own Equity (Subtopic 815-40): Issuer's Accounting for Certain Modifications or Exchanges of Freestanding Equity-Classified Written Call Options (a consensus of the FASB Emerging Issues Task Force)". This ASU is intended to clarify and reduce diversity in an issuer's accounting for modifications or exchanges of freestanding equity-classified written call options that remain equity classified after modification or exchange. The guidance clarifies whether an issuer should account for a modification or an exchange of a freestanding equity-classified written call option that remains equity classified after modification or exchange as: (1) an adjustment to equity and, if so, the related earnings per share effects, if any, or (2) an expense and, if so, the manner and pattern of recognition. The amendments in this ASU affect all entities that issue freestanding written call options that are classified in equity. The amendments do not apply to modifications or exchanges of financial instruments that are within the scope of another Topic and do not affect a holder's accounting for freestanding call options. The amendments in this ASU are effective for all entities for fiscal years beginning after December 15, 2021, including interim periods within those fiscal years. An entity should apply the amendments prospectively to modifications or exchanges occurring on or after the effective date of the amendments. Early adoption is permitted for all entities, including adoption in an interim period. The Company adopted this standard during the first quarter of 2022. The adoption of ASU 2021-04 did not have an impact on the Company's consolidated financial statements since the Company has not modified its freestanding call options.

Note 5. Restricted Cash

As a condition of the $10 million SVB Loan Facility entered into on June 18, 2021 as further discussed in Note 11, the Company is required at all times to maintain on deposit with SVB as cash collateral in a segregated money market bank account in the name of the Company, unrestricted and unencumbered cash (other than a lien in favor of SVB) in an amount of at least 100% of the aggregate outstanding amount of the SVB loan facility. SVB may restrict withdrawals or transfers by or on behalf of the Company that would violate this requirement. The required reserve totalled $6.0 million as of March 31, 2022 and December 31, 2021. This amount is presented in part as restricted cash in other non-current assets on the accompanying condensed consolidated balance sheets.

The following table reconciles cash and cash equivalents and restricted cash per the balance sheet to the condensed statements of cash flows:

	March 31, 2022	December 31, 2021
Cash and cash equivalents	$ 28,362,139	$ 19,586,272
Money market investments, restricted	6,000,000	6,000,000
Total	$ 34,362,139	$ 25,586,272

Note 6. Net Loss per Common Share

Basic loss per share is calculated based upon the net loss available to common shareholders divided by the weighted average number of common shares outstanding during the period. Diluted loss per share is calculated after adjusting the denominator of the basic earnings per share computation for the effects of all dilutive potential common shares outstanding during the period. The dilutive effects of preferred stock, options and warrants and their equivalents are computed using the treasury stock method.

The total number of shares of common stock issuable upon exercise of warrants, stock option grants and equity awards were 836,097 and 611,181 shares for the three-month periods ended March 31, 2022 and 2021, respectively. For the three-month periods ended March 31, 2022 and 2021, diluted loss per common share was the same as basic loss per common share as the other warrants and equity awards that were convertible into shares of the Company's common stock were excluded from the calculation of diluted loss per common share as their effect would have been anti-dilutive. The Company did not pay any dividends during the first three months of 2022 or 2021.

Note 7. Investment in Debt Securities-Available for Sale

Investments in debt securities available for sale with a fair value of $12,943,814 and $29,803,095 as of March 31, 2022 and December 31, 2021, respectively, which consisted of U.S. Treasury securities and corporate debt securities. These investments are valued at estimated fair value, with unrealized gains and losses reported as a separate component of stockholders' equity in accumulated other comprehensive loss.

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

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

	March 31, 2022		December 31, 2021	
	Cost	Fair Value	Cost	Fair Value
Short-term investments				
U.S. Treasury securities	$ 10,005,175	$ 9,946,424	$ 14,786,982	$ 14,778,705
Corporate debt securities	2,997,617	2,997,390	15,024,087	15,024,390
Total	$ 13,002,792	$ 12,943,814	$ 29,811,069	$ 29,803,095

	March 31, 2022		December 31, 2021	
	Cost	Fair Value	Cost	Fair Value
Short-term investment maturities				
Within 3 months	$ 2,997,617	$ 2,997,390	$ 19,798,177	$ 19,799,835
Between 3-12 months	10,005,175	9,946,424	10,012,892	10,003,260
Total	$ 13,002,792	$ 12,943,814	$ 29,811,069	$ 29,803,095

The following table shows the Company's investment in debt securities available for sale gross unrealized gains (losses) and fair value by investment category and length of time that individual securities have been in a continuous unrealized loss position at March 31, 2022 and December 31, 2021. The Company has reviewed individual securities to determine whether a decline in fair value below the amortizable cost basis is other than temporary.

	March 31, 2022		December 31, 2021	
Available for sale securities (all unrealized holding gains and losses are less than 12 months at date of measurement)	Fair Value	Unrealized Holding Gains (Losses)	Fair Value	Unrealized Holding Gains (Losses)
Investments in debt securities with unrealized gains	$ -	$ -	$ 8,999,580	$ 3,499
Investments in debt securities with unrealized losses	12,943,814	(58,978)	20,803,515	(11,473)
Total	$ 12,943,814	$ (58,978)	$ 29,803,095	$ (7,974)

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

	Three Months Ended March 31,	
	2022	2021
Interest and dividends accrued and paid	$ 14,442	$ 2,411
Realized losses	(2,338)	–
Investment income net	$ 12,104	$ 2,411

Note 8. Fair Value Measurements

FASB ASC Section 820, *Fair Value Measurements and Disclosures* establishes a three-level hierarchy for fair value measurements which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The three levels of inputs that may be used to measure fair value are as follows:

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

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

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

Cash and cash equivalents, other current assets, accounts payable and other accrued liabilities are reflected in the condensed consolidated balance sheet at their approximate estimated fair values primarily due to their short-term nature. The fair values of securities available for sale is determined by relying on the securities' relationship to other benchmark quoted securities and classified its investments as Level 2 items in both 2022 and 2021. There were no transfers of assets or liabilities between Level 1 and Level 2 and no transfers in or out of Level 3 during the three-months ended March 31, 2021 or during the year ended December 31, 2021. The changes in Level 3 liabilities were the result of changes in the fair value of the earn-out milestone liability included in earnings and in-process R&D. The earnout milestone liability is valued using a risk-adjusted assessment of the probability of payment of each milestone, discounted to present value using an estimated time to achieve the milestone (see Note 14).

Assets and liabilities measured at fair value are summarized below:

	Total Fair Value	Quoted Prices in Active Markets for Identical Assets/Liabilities (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Recurring items as of March 31, 2022				
Corporate debt securities, available for sale	$ 12,943,814	$ –	$ –	$ 12,943,814
Non-recurring items as of March 31, 2022				
In-process R&D (Note 9)	$ 13,366,234	$ –	$ –	$ 13,366,234
Recurring items as of December 31, 2021				
Corporate debt securities, available for sale	$ 29,803,095	$ –	$ –	$ 29,803,095
Non-recurring items as of December 31, 2021				
In-process R&D (Note 9)	$ 13,366,234	$ –	$ –	$ 13,366,234
Liabilities:				
Recurring items as of March 31, 2022				
Earn-out milestone liability (Note 14)	$ 5,396,000	$ –	$ –	$ 5,396,000
Recurring items as of December 31, 2021				
Earn-out milestone liability (Note 14)	$ 5,396,000	$ –	$ –	$ 5,396,000

Note 9. Intangible Assets

In June 2014, the Company completed the acquisition of substantially all of the assets of EGEN, Inc., an Alabama corporation ("EGEN"), which changed its company name to EGWU, Inc. after the closing of the acquisition (the "EGEN Acquisition"). We acquired all of EGEN's right, title and interest in and to substantially all of the assets of EGEN, including cash and cash equivalents, patents, trademarks and other intellectual property rights, clinical data, certain contracts, licenses and permits, equipment, furniture, office equipment, furnishings, supplies and other tangible personal property. In addition, CLSN Laboratories assumed certain specified liabilities of EGEN, including the liabilities arising out of the acquired contracts and other assets relating to periods after the closing date.

Acquired In-process Research and Development

Acquired in-process research and development ("IPR&D") consists of EGEN's drug technology platforms: TheraPlas and TheraSilence. The fair value of the IPR&D drug technology platforms was estimated to be $24.2 million as of the acquisition date. As of the closing of the acquisition, the IPR&D was considered indefinite lived intangible assets and will not be amortized. IPR&D is reviewed for impairment at least annually as of our third quarter ended September 30, and whenever events or changes in circumstances indicate that the carrying value of the assets might not be recoverable. The Company's IPR&D consisted of three core elements, its RNA delivery system, its glioblastoma multiforme cancer ("GBM") product candidate and its ovarian cancer indication.

The Company's ovarian cancer indication, with original value of $13.3 million, has not been impaired since its acquisition. At March 31, 2022, the Company evaluated the IPR&D for the ovarian cancer indication. As part of the valuation analysis, the fair value of the intangible assets was estimated by discounting forecasted risk adjusted cash flows at a rate that approximated the cost of capital of a market participant. Management's forecast of future cash flows was based on the income approach. Significant estimates, all of which are considered Level 3 inputs, were used in the fair value methodology, including the Company's forecast regarding its future operations and likeliness of obtaining approval to sell its products, as well as other market conditions. Changes in these estimates could change the forecasted cash flows attributed to the IPR&D which could have a significant impact on the fair value of these assets. Based on this valuation analysis, the Company concluded that it is not more than likely that the asset is impaired as of March 31, 2022. As such, no impairment charges for IPR&D related to the ovarian cancer indication were recorded during the first quarter of 2022.

Covenants Not to Compete

Pursuant to the EGEN Purchase Agreement, EGEN provided certain covenants ("Covenant Not To Compete") to the Company whereby EGEN agreed, during the period ending on the seventh anniversary of the closing date of the acquisition on June 20, 2014, not to enter into any business, directly or indirectly, which competes with the business of the Company nor would it contact, solicit or approach any of the employees of the Company for purposes of offering employment. The Covenant Not to Compete which was valued at approximately $1.6 million at the date of the EGEN Acquisition has a definitive life and is amortized on a straight-line basis over its life of 7 years. The Company recognized amortization expense of $56,829 during the three-month period ended March 31, 2021. The carrying value of the Covenant Not to Compete was fully amortized in 2021.

Goodwill

The purchase price exceeded the estimated fair value of the net assets acquired by approximately $2.0 million which was recorded as Goodwill. Goodwill represents the difference between the total purchase price for the net assets purchased from EGEN and the aggregate fair values of tangible and intangible assets acquired, less liabilities assumed. Goodwill is reviewed for impairment at least annually as of the Company's third quarter ended September 30 or sooner if the Company believes indicators of impairment exist. Due to the continuing slowdown in investment in 2021 by public capital markets in the biotech industry and its impact on market capitalization rates in this sector, Goodwill was reviewed for impairment as of December 31, 2021. Based on this assessment, Company concluded that Goodwill was impaired. As of December 31, 2021, the Company wrote off the $2.0 million carrying value of this asset, thereby recognizing a non-cash charge of $2.0 million in the fourth quarter of 2021.

Following is a summary of the net fair value of the assets acquired in the EGEN asset acquisition for the three-month period ended March 31, 2022:

	IPR&D
For the three-months ended March 31, 2022	
Balance at January 1, 2022, net	$ 13,366,234
Impairment	-
Balance at March 31, 2002, net	$ 13,366,234

Note 10. Accrued Liabilities

Other accrued liabilities at March 31, 2022 and December 31, 2021 include the following:

	March 31, 2022	December 31, 2021
Amounts due to contract research organizations and other contractual agreements	$ 1,289,356	$ 1,401,356
Accrued payroll and related benefits	849,178	1,636,727
Accrued interest	17,417	16,792
Accrued professional fees	96,150	87,250
Other	31,412	31,412
Total	$ 2,283,513	$ 3,173,537

Note 11. Notes Payable

The SVB Loan Facility

On June 18, 2021, the Company entered into a $10 million loan facility (the "SVB Loan Facility") with Silicon Valley Bank ("SVB"). Celsion immediately used $6 million from the SVB Loan Facility to retire all outstanding indebtedness with Horizon Technology Finance Corporation as further discussed below. Concurrently with this transaction, the Company used $6.0 million of other available funds to establish a restricted cash account which serves as security for the SVB Loan Facility. The remaining $4 million will be available to be drawn down up to 12 months after closing and will be used for working capital and to fund the advancement of the Company's product pipeline, including GEN-1 for the treatment of newly diagnosed advanced ovarian cancer, as well as other strategic initiatives intended to broaden its product pipeline.

The SVB Loan Facility is in the form of money market secured indebtedness bearing interest at a calculated WSJ Prime-based variable rate (currently 3.25%). A final payment equal to 3% of the total $10 million commitment amount is due upon maturity or prepayment of the SVB Loan Facility. There was no facility commitment fee and no stock or warrants were issued to SVB. Payments under the loan agreement are interest only for the first 24 months after loan closing, followed by a 24-month amortization period of principal and interest through the scheduled maturity date.

In connection with the SVB Loan Facility, the Company incurred financing fees and expenses totalling $243,370 which is recorded and classified as debt discount and are being amortized as interest expense using the effective interest method over the life of the loan. Also, in connection with the SVB Loan Facility, the Company is required to pay an end-of-term fee equal to 3.0% of the original loan amount at time of maturity. Therefore, these amounts totalling $300,000 are being amortized as interest expense using the effective interest method over the life of the loan. During the three-month period ended March 31, 2022, the Company incurred interest expense of $49,375 and amortized $45,315 as interest expense for debt discounts and end-of-term fee in connection with the SVB Financing Facility.

Following is a schedule of future principal payments, net of unamortized debt discounts and amortized end-of-term fee, due on the SVB Loan Facility:

	For the year ending March 31,
2023	$ –
2024	2,250,000
2025	3,000,000
2026 and thereafter	750,000
Subtotal of future principal payments	6,000,000
Unamortized debt premium, net	(100,224)
Total	$ 5,899,776

Horizon Credit Agreement

On June 27, 2018, the Company entered into a loan agreement with Horizon Technology Finance Corporation ("Horizon") that provided $10 million in new capital (the "Horizon Credit Agreement"). The Company drew down $10 million upon closing of the Horizon Credit Agreement on June 27, 2018. On August 28, 2020, Horizon and the Company amended the Horizon Credit Agreement (the "Horizon Amendment") whereby Celsion repaid $5 million of the loan's principal with $5 million of the loan remaining outstanding.

On June 18, 2021, as a condition of entering into the SVB Loan Facility, the Company paid the remaining outstanding principal balance, an early termination fee and the end of term charges in full satisfaction of the Horizon Credit Agreement, as amended. Following is a schedule of the amounts paid to Horizon on June 18, 2021.

Principal balance at June 18, 2021	$ 5,000,000
Early termination fees	150,000
End of term charges	275,000
Total	$ 5,425,000

As an initial fee in connection with the Horizon Credit Agreement, Celsion issued Horizon warrants exercisable for a total of 12,674 shares of Celsion's common stock (the "Existing Warrants") at a per share exercise price of $39.45. The Existing Warrants were immediately exercisable for cash or by net exercise from the date of grant and will expire after ten years from the date of grant. Pursuant to the Horizon Amendment, one-half of the aggregate Existing Warrants, exercisable for a total of 6,337 shares of Celsion's common stock, were canceled, and Celsion issued Horizon new warrants exercisable at a per share exercise price equal to $15.15 for a total of 16,501 shares of Celsion's common stock (the "New Warrants"). The New Warrants were immediately exercisable for cash or by net exercise from the date of grant and will expire after ten years from the date of grant. The remaining 6,337 Existing Warrants issued in connection with the Horizon Credit Agreement remain outstanding at a per share exercise price of $39.45.

The Company valued the warrants issued to Horizon using the Black-Scholes option pricing model and recorded as of the respective issuance dates a total of $507,116 for the Existing Warrants and $247,548 for the New Warrants as a direct deduction from the debt liability, consistent with the presentation of debt discounts, which was amortized as interest expense using the effective interest method over the life of the loan until the loan was terminated on June 18, 2021.

During the three-month period ended March 31, 2021, the Company incurred $120,313 in interest expense and amortized $37,301 as interest expense for debt discounts and end of term charges in connection with the Horizon Credit Agreement.

Note 12. Stockholders' Equity

In September 2018, the Company filed with the SEC a $75 million shelf registration statement on Form S-3 (the 2018 Shelf Registration Statement) that allows the Company to issue any combination of common stock, preferred stock or warrants to purchase common stock or preferred stock. This shelf registration was declared effective on October 12, 2018 and during January 2021, was fully utilized.

On March 19, 2021, the Company filed with the SEC a new $100 million shelf registration statement on Form S-3 (the "2021 Registration Statement") that allows the Company to issue any combination of common stock, preferred stock or warrants to purchase common stock or preferred stock. This shelf registration was declared effective on March 30, 2021.

Reverse Stock Split

On February 28, 2022, the Company effected a 15-for-1 reverse stock split of its common stock which was made effective for trading purposes as of the commencement of trading on March 1, 2022. As of that date, each 15 shares of issued and outstanding common stock and equivalents was consolidated into one share of common stock. All shares have been restated to reflect the effects of the 15-for-1 reverse stock split. In addition, at the market open on March 1, 2022, the Company's common stock started trading under a new CUSIP number 15117N602 although the Company's ticker symbol, CLSN, remained unchanged.

The reverse stock split was previously approved by the Company's stockholders at the 2022 Special Meeting held on February 24, 2022, and the Company subsequently filed a Certificate of Amendment to its Certificate of Incorporation to effect the stock consolidation. The primary reasons for the reverse stock split and the amendment were:

- To provide the Company with the ability to support its future anticipated growth and would provide greater flexibility to consider and respond to future business opportunities and needs as they arise, including equity financings and stock-based acquisitions of new technology and product development candidates. The availability of additional shares of Common Stock would permit the Company to undertake certain of the foregoing actions without delay and expense associated with holding a Special Meeting of Stockholders to obtain stockholder approval each time such an opportunity arises that would require the issuance of shares of our Common Stock; and,

- To continue listing on The NASDAQ Capital Market, which requires that the Company comply with the applicable listing requirements under NASDAQ Marketplace Rules, which requirements include, among others, a minimum bid price of at least $1.00 per share. On December 2, 2021, the Company received a letter from NASDAQ indicating that the closing bid price of the Company's Common Stock fell below $1.00 per share for the previous 30 consecutive business days, and that the Company was therefore not in compliance with the minimum bid price requirement for continued inclusion on The NASDAQ Capital Market. The Company had 180 calendar days, until May 31, 2022, to regain compliance with this requirement, which occurs when the closing bid price of the Company's Common Stock is at least $1.00 per share for a minimum of ten consecutive business days during the 180-day compliance period.

Immediately prior to the reverse stock split, the Company had 86,557,736 shares of common stock outstanding which consolidated into 5,770,467 shares of the Company's common stock. No fractional shares were issued in connection with the reverse stock split. Holders of fractional shares have been paid out in cash for the fractional portion with the Company's overall exposure for such payouts consisting of a nominal amount. The amount of the Company's outstanding convertible preferred stock were not affected by the reverse stock split. The number of outstanding options, stock awards and warrants were adjusted accordingly, with outstanding options and stock awards being reduced from approximately 6.6 million to approximately 0.4 million and outstanding warrants being reduced from approximately 2.5 million to approximately 0.2 million.

Capital on Demand™ Sales Agreement

On December 4, 2018, the Company entered into the Capital on Demand Agreement with JonesTrading, pursuant to which the Company may offer and sell, from time to time, through JonesTrading shares of Common Stock having an aggregate offering price of up to $16.0 million.

During 2020, the Company sold and issued an aggregate of 0.3 million shares under the Capital on Demand Agreement, receiving approximately $6.2 million in gross proceeds. During 2021, the Company has sold 0.5 million shares under the Capital on Demand Agreement, receiving approximately $6.9 million in gross proceeds under the Capital on Demand Agreement. The Company has not sold any shares under the Capital on Demand Agreement in 2022.

January 2021 Registered Direct Offering

On January 22, 2021, the Company entered into a Securities Purchase Agreement (the "January 2021 Purchase Agreement") with several institutional investors, pursuant to which the Company issued and sold, in a registered direct offering (the "January 2021 Offering"), an aggregate of 1,728,395 shares of the Company's common stock at an offering price of $20.25 per share for gross proceeds of approximately $35 million before the deduction of the January 2021 Placement Agents (as defined below) fee and offering expenses. The closing of the January 2021 Offering occurred on January 26, 2021.

In connection with the January 2021 Offering, the Company entered into a placement agent agreement with A.G.P./Alliance Global Partners ("AGP," and together with Brookline Capital Markets, the "January 2021 Placement Agents") pursuant to which the Company agreed to pay the January 2021 Placement Agents a cash fee equal to 7% of the aggregate gross proceeds raised from the sale of the securities sold in the January 2021 Offering and reimburse the January 2021 Placement Agents for certain of their expenses in an amount not to exceed $82,500.

March 2021 Registered Direct Offering

On March 31, 2021, the Company entered into a Securities Purchase Agreement (the "March 2021 Purchase Agreement") with several institutional investors, pursuant to which the Company issued and sold, in a registered direct offering (the "March 2021 Offering"), an aggregate of 769,230 shares of the Company's common stock, at an offering price of $19.50 per share for gross proceeds of approximately $15 million before the deduction of the placement agents fee and offering expenses. The closing of the offering occurred on April 5, 2021 and was accounted for in the second quarter of 2021.

In connection with the March 2021 Offering, the Company entered into a placement agent agreement (the "March 2021 Placement Agent Agreement") with AGP, as lead placement agent (together with JonesTrading Institutional Services LLC and Brookline Capital Markets, a division of Arcadia Securities, LLC, serving as co-placement agents, the "March 2021 Placement Agents"), pursuant to which the Company agreed to pay the March 2021 Placement Agents an aggregate cash fee equal to 7% of the aggregate gross proceeds raised from the sale of the securities sold in the offering and reimburse the Placement Agents for certain of their expenses in an amount not to exceed $82,500.

Under the March 2021 Purchase Agreement and March 2021 Placement Agent Agreement, the Company and its subsidiaries were prohibited, for a period of 90 days after the closing, from entering into any agreement to issue or announcing any issuance or proposed issuance of common stock or any other securities that are at any time convertible into, or exercisable or exchangeable for, or otherwise entitle the holder thereof to receive common stock without the prior written consent of AGP or the investors participating in the offering. For purposes of this offering, AGP and the investors from the Company's January 2021 Offering waived a similar 90-day restriction in the placement agent agreement and purchase agreement for that transaction.

Series A and Series B Convertible Redeemable Preferred Stock Offering

On January 10, 2022, the Company entered into a Securities Purchase Agreement (the "Preferred Stock Purchase Agreement") with several institutional investors, pursuant to which the Company agreed to issue and sell, in concurrent registered direct offerings (the "Preferred Offerings"), (i) 50,000 shares of the Company's Series A Convertible Redeemable Preferred Stock, par value $0.01 per share (the "Series A Preferred Stock"), and (ii) 50,000 shares of the Company's Series B Convertible Redeemable Preferred Stock, par value $0.01 per share (the "Series B Preferred Stock" and together with the Series A Preferred Stock, the "Preferred Stock"), in each case at an offering price of $285 per share, representing a 5% original issue discount to the stated value of $300 per share, for gross proceeds of each Preferred Offering of $14.25 million, or approximately $28.50 million in the aggregate for the Preferred Offerings, before the deduction of the Placement Agent's (as defined below) fee and offering expenses. The shares of Series A Preferred Stock have a stated value of $300 per share and are convertible, at a conversion price of $13.65 per share, into 1,098,901 shares of common stock (subject in certain circumstances to adjustments). The shares of Series B Preferred Stock have a stated value of $300 per share and are convertible, at a conversion price of $15.00 per share, into 1,000,000 shares of common stock (subject in certain circumstances to adjustments). The closing of the Preferred Offerings occurred on January 13, 2022.

The Company held a special meeting of stockholders to consider an amendment (the "Amendment") to the Company's Certificate of Incorporation, as amended (the "Charter"), to effect a reverse stock split of the outstanding shares of common stock ("Common Stock") by a ratio to be determined by the Board of Directors of the Company (the "Reverse Stock Split"), ranging from 7-to-1 to, 10-to-1, 12-to-1 or 15-to-1. The investors of the Preferred Stock Purchase Agreement had agreed to not transfer, offer, sell, contract to sell, hypothecate, pledge or otherwise dispose of the shares of the Preferred Stock until the Reverse Stock Split, to vote the shares of the Series A Preferred Stock purchased in the Preferred Offerings in favor of such Amendment and to vote the shares of the Series B Preferred Stock purchased in the Preferred Offerings in a manner that "mirrors" the proportions on which the shares of Common Stock (excluding any shares of Common Stock that are not voted) and Series A Preferred Stock are voted on the Reverse Stock Split and the Amendment.

Pursuant to the Preferred Stock Purchase Agreement, the Company filed two certificates of designation (the "Certificates of Designation") with the Secretary of the State of Delaware designating the rights, preferences and limitations of the shares of Preferred Stock. The Certificates of Designation provided, in particular, that the Preferred Stock had no voting rights, other than the right to vote as a class on certain specified matters, except that (i) each share of Series A Preferred Stock had the right to vote, on an as converted basis, on the Reverse Stock Split (together with the Company's Common Stock and the Series B Preferred Stock as a single class), and (ii) each share of Series B Preferred Stock had the right to cast 3,000 votes per share of Series B Preferred Stock on the Reverse Stock Split.

The holders of Preferred Stock were entitled to dividends, on an as-if converted basis, equal to dividends actually paid, if any, on shares of Common Stock. The Preferred Stock was convertible into shares of Common Stock at a rate of $13.65 per share for the Series A Preferred Stock and $15.00 per share for the Series B Preferred Stock, subject to adjustment. The Preferred Stock was convertible at the option of the holder at any time after the Company had received stockholder approval for the Reverse Stock Split and filed the requisite Amendment with the Delaware Secretary of State's office to effectuate the Reverse Stock Split (the "Reverse Stock Split Date"), subject to beneficial ownership limitations set forth in the applicable Certificate of Designation. In addition, on or after the Reverse Stock Split Date, and subject to the satisfaction of certain conditions, the Company had the right to cause the holders of the Preferred Stock to convert their shares of Preferred Stock, subject to such beneficial ownership limitations.

Each holder of the Preferred Stock had the right to cause the Company to redeem all or part of their shares of the Preferred Stock from the earlier of receipt of stockholder approval of the Reverse Stock Split or of 90 days following the original issue date until 120 days following the original issue date, the "Redemption Date," in cash at a redemption price equal to 105% of the stated value plus an amount equal to accumulated but unpaid dividends, if any, on such shares (whether or not earned or declared, but excluding interest on such dividends) up to, but excluding, the Redemption Date. In connection with the Preferred Offerings, the Company entered into a placement agent agreement (the "Placement Agent Agreement") with AGP in which the Company paid $1,000,000 as a placement agent fee and $110,000 to reimburse AGP for certain expenses related to the Preferred Stock offering.

On March 3, 2022, the Company redeemed for cash at a price equal to 105% of the $300 stated value per share all of its 50,000 outstanding shares of Series A Preferred Stock and its 50,000 Series B Preferred Stock. As a result, all shares of the Preferred Stock have been retired and are no longer outstanding and the Company's only class of outstanding stock is its common. Each share of common stock entitles the holder to one vote.

The Series A Preferred Stock and Series B Preferred Stock were recorded as a liability on the condensed consolidated balance sheet during the first quarter of 2022 until the preferred shares were redeemed during the same quarter. The Company recognized $4,551,567 as interest expense for the preferred shares during the first quarter of 2022, which was composed of: (a) $3,000,000 as the difference between the redemption price for the preferred shares and the net proceeds received from the issuance of the preferred shares, (b) $1,110,000 paid to AGP as a placement agent fee and reimbursement for certain expenses, and (c) $441,567 in legal fees recognized in the first quarter that were attributed to the preferred shares.

The Placement Agent Agreement contains customary representations, warranties and agreements by the Company, customary conditions to closing, indemnification obligations of the Company and AGP, including for liabilities under the Securities Act, other obligations of the parties and termination provisions.

Note 13. Stock-Based Compensation

The Company has long-term compensation plans that permit the granting of equity-based awards in the form of stock options, restricted stock, restricted stock units, stock appreciation rights, other stock awards, and performance awards.

At the 2018 Annual Stockholders Meeting of the Company held on May 15, 2018, stockholders approved the Celsion Corporation 2018 Stock Incentive Plan (the "2018 Plan"). The 2018 Plan, as adopted, permits the granting of 180,000 shares of Celsion common stock as equity awards in the form of incentive stock options, nonqualified stock options, restricted stock, restricted stock units, stock appreciation rights, other stock awards, performance awards, or in any combination of the foregoing. At the 2019 Annual Stockholders Meeting of the Company held on May 14, 2019, stockholders approved an amendment to the 2018 Plan whereby the Company increased the number of common stock shares available by 80,000 to a total of 260,000 under the 2018 Plan, as amended. Prior to the adoption of the 2018 Plan, the Company had maintained the Celsion Corporation 2007 Stock Incentive Plan (the "2007 Plan"). At the 2020 Annual Stockholders Meeting of the Company held on June 15, 2020, stockholders approved an amendment to the 2018 Plan, as previously amended, whereby the Company increased the number of shares of common stock available by 166,667 to a total of 426,667 under the 2018 Plan, as amended. At the 2021 Annual Stockholders Meeting of the Company held on June 10, 2021, stockholders approved an amendment to the 2018 Plan, as previously amended, whereby the Company increased the number of shares of common stock available by 513,333 to a total of 940,000 under the 2018 Plan, as amended.

The Company has issued stock awards to employees and directors in the form of stock options and restricted stock. Options are generally granted with strike prices equal to the fair market value of a share of Celsion common stock on the date of grant. Incentive stock options may be granted to purchase shares of common stock at a price not less than 100% of the fair market value of the underlying shares on the date of grant, provided that the exercise price of any incentive stock option granted to an eligible employee owning more than 10% of the outstanding stock of Celsion must be at least 110% of such fair market value on the date of grant. Only officers and key employees may receive incentive stock options.

Option and restricted stock awards vest upon terms determined by the Compensation Committee of the Board of Directors and are subject to accelerated vesting in the event of a change of control or certain terminations of employment. The Company issues new shares to satisfy its obligations from the exercise of options or the grant of restricted stock awards.

On September 28, 2018, and again on February 19, 2019, the Compensation Committee of the Board of Directors approved the grant of (i) inducement stock options (the "Inducement Option Grants") to purchase a total of 10,933 and 9,332 shares of Celsion common stock, respectively and (ii) inducement restricted stock awards (the "Inducement Stock Grants") totaling 1,266 and 8,666 shares of Celsion common stock to five new employees collectively. Each award has a grant date of the date of grant. Each Inducement Option Grant has an exercise price per share equal to $41.55 and $32.70 which represents the closing price of Celsion's common stock as reported by Nasdaq on September 28, 2018 and February 19, 2019, respectively. Each Inducement Option Grant vests over three years, with one-third vesting on the one-year anniversary of the employee's first day of employment with the Company and one-third vesting on the second and third anniversaries thereafter, subject to the new employee's continued service relationship with the Company on each such date. Each Inducement Option Grant has a ten-year term and is subject to the terms and conditions of the applicable stock option agreement. Each of Inducement Stock Grant vested on the one-year anniversary of the employee's first day of employment with the Company is subject to the new employee's continued service relationship with the Company through such date and is subject to the terms and conditions of the applicable restricted stock agreement.

As of March 31, 2022, there were a total of 946,454 shares of Celsion common stock reserved for issuance under the 2018 Plan, which were comprised of 658,246 shares of Celsion common stock subject to equity awards previously granted under the 2018 Plan and 2007 Plan and 288,208 shares of Celsion common stock available for future issuance under the 2018 Plan. As of March 31, 2022, there were a total of 9,336 shares of Celsion common stock subject to outstanding inducement awards.

A summary of stock option awards and restricted stock grants for the three-months ended March 31, 2022 is presented below:

	Stock Options		Restricted Stock Awards		Weighted Average
	Options Outstanding	Weighted Average Exercise Price	Non-vested Restricted Stock Outstanding	Weighted Average Grant Date Fair Value	Contractual Terms of Equity Awards (in years)
Equity awards outstanding at January 1, 2022	441,425	$ 38.49	1,481	$ 12.36	
Equity awards granted	224,276	$ 4.60	400	$ 4.60	
Equity awards outstanding at March 31, 2022	665,701	$ 27.07	1,881	$ 10.71	8.0
Aggregate intrinsic value of outstanding equity awards at March 31, 2022	$ 103,167		$ 20,145		
Equity awards exercisable at March 31, 2022	419,559	$ 33.22			7.5
Aggregate intrinsic value of equity awards exercisable at March 31, 2022	$ 34,304				

Total compensation cost related to stock options and restricted stock awards amounted to approximately $1.0 million and $1.6 million for the three-month periods ended March 31, 2022 and 2021, respectively. Of these amounts, $0.4 million and $0.6 million was charged to research and development during the three-month periods ended March 31, 2022 and 2021, respectively, and $0.6 million and $1.0 million was charged to general and administrative expenses during the three-month periods ended March 31, 2022 and 2021, respectively.

As of March 31, 2022, there was $1.7 million of total unrecognized compensation cost related to non-vested stock-based compensation arrangements. That cost is expected to be recognized over a weighted-average period of 1.2 years. The weighted average grant date fair values of the stock options granted was $4.16 and $2.03 during the three-month periods ended March 31, 2022 and 2021, respectively.

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

	Three Months Ended March 31,	
	2022	2021
Risk-free interest rate	1.74%	1.64 to 1.74%
Expected volatility	108.5%	106.8 to 112.5%
Expected life (in years)	8.5 to 9.0	7.5 to 10.0
Expected dividend yield	-%	-%

Expected volatilities utilized in the model are based on historical volatility of the Company's stock price. The risk-free interest rate is derived from values assigned to U.S. Treasury bonds with terms that approximate the expected option lives in effect at the time of grant.

Note 14. Earn-Out Milestone Liability

On March 28, 2019, the Company and EGWU, Inc. entered into an amendment to its purchase agreement ("Amended Asset Purchase Agreement"), whereby payment of the earnout milestone liability related to the Ovarian Cancer Indication of $12.4 million had been modified. The Company has the option to make the payment as follows:

a) $7.0 million in cash within 10 business days of achieving the milestone; or
b) $12.4 million in cash, common stock of the Company, or a combination of either, within one year of achieving the milestone.

As of March 31, 2022 and December 31, 2021, the Company fair valued the earn-out milestone liability at $5.4 million. In assessing the fair value of the earnout milestone liability at March 31, 2022, the Company considered each of the settlement provisions per the Amended Asset Purchase Agreement and equally weighted the probability of a cash or cash and common stock payment.

Note 15. Warrants

Following is a summary of all warrant activity for the three-months ended March 31, 2022:

Warrants	Number of Warrants Issued	Weighted Average Exercise Price
Warrants outstanding at December 31, 2021	175,792	$ 20.96
Warrants expired during the three months ended March 31, 2022	(7,273)	$ 48.30
Warrants outstanding at March 31, 2022	168,519	$ 19.78
Aggregate intrinsic value of outstanding warrants at March 31, 2022	$ -	
Weighted average remaining contractual terms at March 31, 2022	3.8 years	

Note 16. Leases

In 2011, the Company executed a lease (the "Lease") with Brandywine Operating Partnership, L.P. (Brandywine), a Delaware limited partnership, for a 10,870 square foot premises located in Lawrenceville, New Jersey and relocated its offices to Lawrenceville, New Jersey from Columbia, Maryland. The Lease had an initial term of 66 months. In late 2015, Lenox Drive Office Park LLC purchased the real estate and office building and assumed the Lease. This Lease was set to expire on April 30, 2017. In April 2017, the Company and the landlord amended the Lease effective May 1, 2017. The 1st Lease Amendment extended the term of the agreement for an additional 64 months, reduced the premises to 7,565 square feet, reduced the monthly rent and provided four months free rent. The monthly rent ranged from approximately $18,900 in the first year to approximately $20,500 in the final year of the 1st Lease Amendment. Effective January 9, 2019, the Company amended the current terms of the 1st Lease Amendment to increase the size of the premises by 2,285 square feet to 9,850 square feet and also extended the lease term by one year to September 1, 2023. The monthly rent ranges from approximately $25,035 in the first year to approximately $27,088 in the final year of the 2nd Lease Amendment.

In connection with the EGEN Asset Purchase Agreement in June 2014, the Company assumed the existing lease with another landlord for an 11,500 square foot premises located in Huntsville Alabama. In January 2018, the Company and the Huntsville landlord entered into a new 60-month lease which reduced the premises to 9,049 square feet with rent payments of approximately $18,100 per month. On June 9, 2021 and, as amended on July 7, 2021, the Company and the Huntsville landlord entered into a 22-month lease for an additional 2,197 square foot premises with rent payments of approximately $5,500 per month.

The Company adopted ASC Topic 842 on January 1, 2019 using the modified retrospective transition method for all lease arrangements at the beginning of the period of adoption.

Following is a table of the lease payments and maturity of our operating lease liabilities as of March 31, 2022:

Remainder of 2022	$	451,922
2023		238,609
2024 and thereafter		-
Subtotal future lease payments		690,531
Less imputed interest		(42,167)
Total lease liabilities	$	648,364
Weighted average remaining life		1.2 years
Weighted average discount rate		9.98%

For the three-month period ended March 31, 2022, operating lease expense was $146,936 and cash paid for operating leases included in operating cash flows was $149,573. For the three-month period ended March 31, 2021, operating lease expense was $130,595 and cash paid for operating leases included in operating cash flows was $131,863.

Note 17. Technology Development and Licensing Agreements

On May 7, 2012, the Company entered into a long-term commercial supply agreement with Zhejiang Hisun Pharmaceutical Co. Ltd. (Hisun) for the production of ThermoDox® in the China territory. In accordance with the terms of the agreement, Hisun will be responsible for providing all of the technical and regulatory support services, including the costs of all technical transfer, registration and bioequivalence studies, technical transfer costs, Celsion consultative support costs and the purchase of any necessary equipment and additional facility costs necessary to support capacity requirements for the manufacture of ThermoDox®. Celsion will repay Hisun for the aggregate amount of these development costs and fees commencing on the successful completion of three registration batches of ThermoDox®. Hisun is also obligated to certain performance requirements under the agreement. The agreement will initially be limited to a percentage of the production requirements of ThermoDox® in the China territory with Hisun retaining an option for additional global supply after local regulatory approval in the China territory. In addition, Hisun will collaborate with Celsion around the regulatory approval activities for ThermoDox® with the China State Food and Drug Administration (CHINA FDA). During the first quarter of 2015, Hisun completed the successful manufacture of three registration batches of ThermoDox®.

On January 18, 2013, we entered into a technology development contract with Hisun, pursuant to which Hisun paid us a non-refundable research and development fee of $5 million to support our development of ThermoDox® in mainland China, Hong Kong and Macau (the China territory). Following our announcement on January 31, 2013 that the HEAT study failed to meet its primary endpoint, Celsion and Hisun have agreed that the Technology Development Contract entered into on January 18, 2013 will remain in effect while the parties continue to collaborate and are evaluating the next steps in relation to ThermoDox®, which include the sub-group analysis of patients in the Phase III HEAT Study for the hepatocellular carcinoma clinical indication and other activities to further the development of ThermoDox® for the Greater China market. The $5.0 million received as a non-refundable payment from Hisun in the first quarter 2013 has been recorded to deferred revenue and will continue to be amortized over the 10 -year term of the agreement, until such time as the parties find a mutually acceptable path forward on the development of ThermoDox® based on findings of the ongoing post-study analysis of the HEAT Study data.

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

Among the key provisions of the Celsion-Hisun Memorandum of Understanding are:

- Hisun will provide the Company with internal resources necessary to complete the technology transfer of the Company's proprietary manufacturing process and the production of registration batches for the China territory;
- Hisun will coordinate with the Company around the clinical and regulatory approval activities for ThermoDox® as well as other liposomal formations with the CHINA FDA; and
- Hisun will be granted a right of *first* offer for a commercial license to ThermoDox® for the sale and distribution of ThermoDox® in the China territory.

On August 8, 2016, the Company signed a Technology Transfer, Manufacturing and Commercial Supply Agreement ("GEN-1 Agreement") with Hisun to pursue an expanded partnership for the technology transfer relating to the clinical and commercial manufacture and supply of GEN-1, Celsion's proprietary gene mediated, IL-12 immunotherapy, for the greater China territory, with the option to expand into other countries in the rest of the world after all necessary regulatory approvals are in effect. The GEN-1 Agreement will help to support supply for both ongoing and planned clinical studies in the U.S., and for potential future studies of GEN-1 in China. GEN-1 is currently being evaluated by Celsion in first line ovarian cancer patients.

Key provisions of the GEN-1 Agreement are as follows:

- the GEN-1 Agreement has targeted unit costs for clinical supplies of GEN-1 that are substantially competitive with the Company's current suppliers;
- once approved, the cost structure for GEN-1 will support rapid market adoption and significant gross margins across global markets;
- Celsion will provide Hisun a certain percentage of China's commercial unit demand, and separately of global commercial unit demand, subject to regulatory approval;
- Hisun and Celsion will commence technology transfer activities relating to the manufacture of GEN-1, including all studies required by CHINA FDA for site approval; and
- Hisun will collaborate with Celsion around the regulatory approval activities for GEN-1 with the CHINA FDA. A local China partner affords Celsion access to accelerated CHINA FDA review and potential regulatory exclusivity for the approved indication.

The Company evaluated the Hisun arrangement in accordance with ASC 606 and determined that its performance obligations under the agreement include the non-exclusive, royalty-free license, research and development services to be provided by the Company, and its obligation to serve on a joint committee. The Company concluded that the license was not distinct since its value is closely tied to the ongoing research and development activities. As such, the license and the research and development services are bundled as a single performance obligation. Since the provision of the license and research and development services are considered a single performance obligation, the $5,000,000 upfront payment is being recognized as revenue ratably through 2022.

Note 18. Commitments and Contingencies

On October 29, 2020, a putative securities class action was filed against the Company and certain of its officers and directors (the "Spar Individual Defendants") in the U.S. District Court for the District of New Jersey, captioned Spar v. Celsion Corporation, et al., Case No. 1:20-cv-15228. The plaintiff alleges that the Company and Individual Defendants made false and misleading statements regarding one of the Company's product candidates, ThermoDox®, and brings claims for damages under Section 10(b) of the Exchange Act and Rule 10b-5 promulgated thereunder against all Defendants, and under Section 20(a) of the Exchange Act of 1934 against the Spar Individual Defendants. The Company believes that the case is without merit and intends to defend it vigorously. Due to the early stage of the case neither the likelihood that a loss, if any, will be realized, nor an estimate of possible loss or range of loss, if any, can be determined.

In February 2021, a derivative shareholder lawsuit was filed against the Company, as the nominal defendant, and certain of its directors and officers as defendants in the U.S. District Court for the District of New Jersey, captioned *Fidler v. Michael H. Tardugno et al.*, Case No. 3:21-cv-02662. The plaintiff alleges breach of fiduciary duty and other claims arising out of alleged statements made by certain of the Company's directors and/or officers regarding ThermoDox®. The Company believes it has meritorious defenses to these claims and intends to vigorously contest this suit. Due to the early stage of the case neither the likelihood that a loss, if any, will be realized, nor an estimate of possible loss or range of loss, if any, can be determined.

In August 2021, a complaint regarding a corporate books and records demand was filed against the Company in the Court of Chancery of the State of Delaware, captioned *Pacheco v. Celsion Corporation*, Case No. 2021-0705. The plaintiff alleges he is entitled to inspect the Company's books and records concerning the OPTIMA Study and other materials. The Company believes that the scope of the demand is without merit and intends to defend it vigorously. Due to the early stage of the case neither the likelihood that a loss, if any, will be realized, nor an estimate of possible loss or range of loss, if any, can be determined.

19. Subsequent Events

The Company has evaluated events subsequent to the date of the balance sheet through May 15, 2022.

On April 6, 2022, the Company entered into a Securities Purchase Agreement (the "April 2022 Purchase Agreement") with several institutional investors, pursuant to which the Company agreed to issue and sell, in a registered direct offering (the "April 2022 Offering"), an aggregate of 1,328,274 shares of the Company's common stock at an offering price of $5.27 per share for gross proceeds of $7.0 million before the deduction of the April 2022 Placement Agent (as defined below) fees and offering expenses. The April 2022 Purchase Agreement contains customary representations, warranties and agreements by the Company and customary conditions to closing. The closing of the April 2022 Offering occurred on April 8, 2022. In connection with the April 2022 Offering, the Company entered into a placement agent agreement with A.G.P./Alliance Global Partners (the "April 2022 Placement Agent") pursuant to which the Company agreed to pay the April 2022 Placement Agent a cash fee equal to 6.5% of the aggregate gross proceeds raised from the sale of the securities sold in the April 2022 Offering and reimburse the April 2022 Placement Agent for certain of their expenses in an amount not to exceed $50,000.

Item 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

The following discussion and analysis of our financial condition and results of operations This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results may differ materially from those discussed in forward-looking statements. Factors that might cause a difference include, but are not limited to, those discussed above under "Cautionary Note Regarding Forward-Looking Statements", and in Item 1A. Risk factors in our Annual Report on Form 10-K for the fiscal year ended December 31, 2021.

Strategic and Clinical Overview

Celsion Corporation ("Celsion" or the "Company") is a fully integrated, clinical stage biotechnology company focused on advancing a portfolio of innovative treatments including DNA-based immunotherapies, next generation vaccines and directed chemotherapies through clinical trials and eventual commercialization. The Company's product pipeline includes GEN-1, a DNA-based immunotherapy for the localized treatment of ovarian cancer. ThermoDox®, Celsion's proprietary heat-activated liposomal encapsulation of doxorubicin, currently under investigator-sponsored development for several cancer indications, is being managed though Celsion's wholly owned subsidiary, Celsion GmbH. Additionally, Celsion has two feasibility stage platform technologies for the development of novel nucleic acid-based immunotherapies and next generation vaccines and other anti-cancer DNA or RNA therapies. Both are novel synthetic, non-viral vectors with demonstrated capability in nucleic acid cellular transfection.

IMMUNO-ONCOLOGY Program

On June 20, 2014, the Company completed the acquisition of substantially all of the assets of EGEN, a private company located in Huntsville, Alabama. Pursuant to the Asset Purchase Agreement, CLSN Laboratories acquired all of EGEN's right, title and interest in substantially all of the assets of EGEN, including cash and cash equivalents, patents, trademarks and other intellectual property rights, clinical data, certain contracts, licenses and permits, equipment, furniture, office equipment, furnishings, supplies and other tangible personal property. A key asset acquired from EGEN was the TheraPlas technology platform. The first drug candidate developed from this technology platform is GEN-1.

THERAPLAS Technology Platform

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

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

We believe that TheraPlas has emerged as a viable alternative to current approaches due to several distinguishing characteristics such as strong molecular versatility that may allow for complex modifications to potentially improve activity and safety with little difficulty. The biocompatibility of these polymers reduces the risk of adverse immune response, thus allowing for repeated administration. Compared to naked DNA or cationic lipids, TheraPlas is generally safer, more efficient, and cost effective. We believe that these advantages place Celsion in a strong position to capitalize on this technology platform.

Ovarian Cancer Overview

Ovarian cancer is the most lethal of gynecological malignancies among women with an overall five-year survival rate of 45%. This poor outcome is due in part to the lack of effective prevention and early detection strategies. There were approximately 20,000 new cases of ovarian cancer in the U.S. in 2021 with an estimated 13,000 deaths. Mortality rates for ovarian cancer declined very little in the last forty years due to the unavailability of detection tests and improved treatments. Most women with ovarian cancer are not diagnosed until Stages III or IV, when the disease has spread outside the pelvis to the abdomen and areas beyond causing swelling and pain. The five-year survival rates for Stages III and IV are 39% and 17%, respectively. First-line chemotherapy regimens are typically platinum-based combination therapies. Although this first line of treatment has an approximate 80% response rate, 55% to 75% of women will develop recurrent ovarian cancer within two years and ultimately will not respond to platinum therapy. Patients whose cancer recurs or progresses after initially responding to surgery and first-line chemotherapy have been divided into one of the two groups based on the time from completion of platinum therapy to disease recurrence or progression. This time period is referred to as platinum-free interval. The platinum-sensitive group has a platinum-free interval of longer than six months. This group generally responds to additional treatment with platinum-based therapies. The platinum-resistant group has a platinum-free interval of shorter than six months and is resistant to additional platinum-based treatments. Pegylated liposomal doxorubicin, topotecan, and Avastin are the only approved second-line therapies for platinum-resistant ovarian cancer. The overall response rate for these therapies is 10% to 20% with median overall survival ("OS") of eleven to twelve months. Immunotherapy is an attractive novel approach for the treatment of ovarian cancer particularly since ovarian cancers are considered immunogenic tumors. IL-12 is one of the most active cytokines for the induction of potent anti-cancer immunity acting through the induction of T-lymphocyte and natural killer cell proliferation. The precedence for a therapeutic role of IL-12 in ovarian cancer is based on epidemiologic and preclinical data.

GEN-1 Immunotherapy

GEN-1 is a DNA-based immunotherapeutic product candidate for the localized treatment of ovarian cancer by intraperitoneally administering an Interleukin-12 ("IL-12") plasmid formulated with our proprietary TheraPlas delivery system. In this DNA-based approach, the immunotherapy is combined with a standard chemotherapy drug, which can potentially achieve better clinical outcomes than with chemotherapy alone. We believe that increases in IL-12 concentrations at tumor sites for several days after a single administration could create a potent immune environment against tumor activity and that a direct killing of the tumor with concomitant use of cytotoxic chemotherapy could result in a more robust and durable antitumor response than chemotherapy alone. We believe the rationale for local therapy with GEN-1 is based on the following:

- Loco-regional production of the potent cytokine IL-12 avoids toxicities and poor pharmacokinetics associated with systemic delivery of recombinant IL-12;
- Persistent local delivery of IL-12 lasts up to one week and dosing can be repeated; and
- Local therapy is ideal for long-term maintenance therapy.

OVATION I Study. In February 2015, we announced that the U.S. Food and Drug Administration ("FDA") accepted, without objection, the Phase I dose-escalation clinical trial of GEN-1 in combination with the standard of care in neoadjuvant ovarian cancer (the "OVATION I Study"). On September 30, 2015, we announced enrollment of the first patient in the OVATION I Study. The OVATION I Study was designed to:

(i) identify a safe, tolerable and therapeutically active dose of GEN-1 by recruiting and maximizing an immune response;

(ii) enroll three to six patients per dose level and evaluate safety and efficacy; and

(iii) attempt to define an optimal dose for a follow-on Phase I/II study.

In addition, the OVATION I Study established a unique opportunity to assess how cytokine-based compounds such as GEN-1, directly affect ovarian cancer cells and the tumor microenvironment in newly diagnosed ovarian cancer patients. The study was designed to characterize the nature of the immune response triggered by GEN-1 at various levels of the patients' immune system, including:

- Infiltration of cancer fighting T-cell lymphocytes into primary tumor and tumor microenvironment including peritoneal cavity, which is the primary site of metastasis of ovarian cancer;
- Changes in local and systemic levels of immuno-stimulatory and immunosuppressive cytokines associated with tumor suppression and growth, respectively; and
- Expression profile of a comprehensive panel of immune related genes in pre-treatment and GEN-1-treated tumor tissue.

We initiated the OVATION I Study at four clinical sites at the University of Alabama at Birmingham, Oklahoma University Medical Center, Washington University in St. Louis, and the Medical College of Wisconsin. During 2016 and 2017, we announced data from the first fourteen patients in the OVATION I Study. On October 3, 2017, we announced final translational research and clinical data from the OVATION I Study.

Key translational research findings from all evaluable patients are consistent with the earlier reports from partial analysis of the data and are summarized below:

- The intraperitoneal treatment of GEN-1 in conjunction with NACT resulted in dose dependent increases in IL-12 and Interferon-gamma (IFN-γ) levels that were predominantly in the peritoneal fluid compartment with little to no changes observed in the patients' systemic circulation. These and other post-treatment changes including decreases in VEGF levels in peritoneal fluid are consistent with an IL-12 based immune mechanism;

- Consistent with the previous partial reports, the effects observed in the IHC analysis were pronounced decreases in the density of immunosuppressive T-cell signals (Foxp3, PD-1, PDL-1, IDO-1) and increases in CD8+ cells in the tumor microenvironment;

- The ratio of CD8+ cells to immunosuppressive cells was increased in approximately 75% of patients suggesting an overall shift in the tumor microenvironment from immunosuppressive to pro-immune stimulatory following treatment with GEN-1. An increase in CD8+ to immunosuppressive T-cell populations is a leading indicator and believed to be a good predictor of improved OS; and

- Analysis of peritoneal fluid by cell sorting, not reported before, shows a treatment-related decrease in the percentage of immunosuppressive T-cell (Foxp3+), which is consistent with the reduction of Foxp3+ T-cells in the primary tumor tissue, and a shift in tumor naïve CD8+ cell population to more efficient tumor killing memory effector CD8+ cells.

The Company also reported positive clinical data from the first fourteen patients who completed treatment in the OVATION I Study. GEN-1 plus standard chemotherapy produced no dose limiting toxicities and positive dose dependent efficacy signals which correlate well with positive surgical outcomes as summarized below:

- Of the fourteen patients treated in the entire study, two patients demonstrated a complete response, ten patients demonstrated a partial response and two patients demonstrated stable disease, as measured by RECIST criteria. This translates to a 100% disease control rate and an 86% objective response rate ("ORR"). Of the five patients treated in the highest dose cohort, there was a 100% ORR with one complete response and four partial responses;

- Fourteen patients had successful resections of their tumors, with nine patients (64%) having a complete tumor resection ("R0"), which indicates a microscopically margin-negative resection in which no gross or microscopic tumor remains in the tumor bed. Seven out of eight (88%) patients in the highest two dose cohorts experienced a R0 surgical resection. All five patients treated at the highest dose cohort experienced a R0 surgical resection; and

- All patients experienced a clinically significant decrease in their CA-125 protein levels as of their most recent study visit. CA-125 is used to monitor certain cancers during and after treatment. CA-125 is present in greater concentrations in ovarian cancer cells than in other cells.

On July 29, 2021, the Company announced final progression free survival ("PFS") results from the OVATION I Study published in the Journal of Clinical Cancer Research. Median PFS in patients treated per protocol (n=14) was 21 months and was 18.4 months for the intent-to-treat ("ITT") population (n=18) for all dose cohorts, including three patients who dropped out of the study after 13 days or less, and two patients who did not receive full NAC and GEN-1 cycles. Under the current standard of care, in women with Stage III/IV ovarian cancer undergoing NAC, their disease progresses within about 12 months on average. The results from the OVATION I Study support continued evaluation of GEN-1 based on promising tumor response, as reported in the PFS data, and the ability for surgeons to completely remove visible tumor at interval debulking surgery. GEN-1 was well tolerated, and no dose-limiting toxicities were detected. Intraperitoneal administration of GEN-1 was feasible with broad patient acceptance.

OVATION 2 Study. The Company held an Advisory Board Meeting on September 27, 2017 with the clinical investigators and scientific experts including those from Roswell Park Cancer Institute, Vanderbilt University Medical School, and M.D. Anderson Cancer Center to review and finalize clinical, translational research and safety data from the OVATION I Study in order to determine the next steps forward for our GEN-1 immunotherapy program.

On November 13, 2017, the Company filed its Phase I/II clinical trial protocol with the FDA for GEN-1 for the localized treatment of ovarian cancer. The protocol is designed with a single dose escalation phase to 100 mg/m² to identify a safe and tolerable dose of GEN-1 while maximizing an immune response. The Phase I portion of the study will be followed by a continuation at the selected dose in approximately 110 patients randomized Phase II study.

In the OVATION 2 Study, patients in the GEN-1 treatment arm will receive GEN-1 plus chemotherapy pre- and post-interval debulking surgery ("IDS"). The OVATION 2 Study will include up to 110 patients with Stage III/IV ovarian cancer, with 12 to 15 patients in the Phase I portion and up to 95 patients in Phase II. The study is powered to show a 33% improvement in the primary endpoint, PFS, when comparing GEN-1 with neoadjuvant + adjuvant chemotherapy versus neoadjuvant + adjuvant chemotherapy alone. The PFS primary analysis will be conducted after at least 80 events have been observed or after all patients have been followed for at least 16 months, whichever is later.

In March 2020, the Company announced encouraging initial clinical data from the first 15 patients enrolled in the Phase I portion of the OVATION 2 Study for patients newly diagnosed with Stage III and IV ovarian cancer. The OVATION 2 Study combines GEN-1, the Company's IL-12 gene-mediated immunotherapy, with standard-of-care neoadjuvant chemotherapy (NACT). Following NACT, patients undergo interval debulking surgery (IDS), followed by three additional cycles of chemotherapy.

GEN-1 plus standard NACT produced positive dose-dependent efficacy results, with no dose-limiting toxicities, which correlates well with successful surgical outcomes as summarized below:

- Of the 15 patients treated in the Phase I portion of the OVATION 2 Study, nine patients were treated with GEN-1 at a dose of 100 mg/m² plus NACT and six patients were treated with NACT only. All 15 patients had successful resections of their tumors, with eight out of nine patients (88%) in the GEN-1 treatment arm having an R0 resection, which indicates a microscopically margin-negative complete resection in which no gross or microscopic tumor remains in the tumor bed. Only three out of six patients (50%) in the NACT only treatment arm had a R0 resection.

- When combining these results with the surgical resection rates observed in the Company's prior Phase Ib dose-escalation trial (the OVATION 1 Study), a population of patients with inclusion criteria identical to the OVATION 2 Study, the data reflect the strong dose-dependent efficacy of adding GEN-1 to the current standard of care NACT:

		% of Patients with R0 Resections
0, 36, 47 mg/m² of GEN-1 plus NACT	n=12	42%
61, 79, 100 mg/m² of GEN-1 plus NACT	n=17	82%

- The ORR as measured by Response Evaluation Criteria in Solid Tumors (RECIST) criteria for the 0, 36, 47 mg/m² dose GEN-1 patients were comparable, as expected, to the higher (61, 79, 100 mg/m²) dose GEN-1 patients, with both groups demonstrating an approximate 80% ORR.

On March 23, 2020, the Company announced that the European Medicines Agency (the "EMA") Committee for Orphan Medicinal Products ("COMP") has recommended that GEN-1 be designated as an orphan medicinal product for the treatment of ovarian cancer. GEN-1 is an IL-12 DNA plasmid vector encased in a non-viral nanoparticle delivery system, which enables cell transfection followed by persistent, local secretion of the IL-12 protein. GEN-1 previously received orphan designation from the FDA.

On March 26, 2020, the Company announced with Medidata, a Dassault Systèmes company, that examining matched patient data provided by Medidata in a synthetic control arm ("SCA") with results from the Company's completed Phase Ib dose-escalating OVATION I Study showed positive results in progression-free survival ("PFS"). The hazard ratio ("HR") was 0.53 in the ITT group, showing strong signals of efficacy. Celsion believes these data may warrant consideration of strategies to accelerate the clinical development program for GEN-1 in newly diagnosed, advanced ovarian cancer patients by the FDA. In its March 2019 discussion with Celsion, the FDA noted that preliminary findings from the Phase Ib OVATION I Study were exciting but lacked a control group to evaluate GEN-1's independent impact on impressive tumor response, surgical results and PFS. The FDA encouraged the Company to continue its GEN-1 development program and consult with FDA with new findings that may have a bearing on designations such as Fast Track and Breakthrough Therapy.

SCAs have the potential to revolutionize clinical trials in certain oncology indications and some other diseases where a randomized control is not ethical or practical. SCAs are formed by carefully selecting control patients from historical clinical trials to match the demographic and disease characteristics of the patients treated with the new investigational product. SCAs have been shown to mimic the results of traditional randomized controls so that the treatment effects of an investigational product can be visible by comparison to the SCA. SCAs can help advance the scientific validity of single arm trials, and in certain indications, reduce time and cost, and expose fewer patients to placebos or existing standard-of-care treatments that might not be effective for them.

On July 27, 2020, the Company announced the randomization of the first two patients in the Phase II portion of the OVATION 2 Study with GEN-1 in advanced ovarian cancer. The Company anticipates completing enrollment of up to 110 patients before the end of the third quarter of 2022. Because this is an open-label study, the Company intends to provide clinical updates throughout the course of treatment including response rates and surgical resection scores.

In February 2021, the Company announced that it has received Fast Track designation from the FDA for GEN-1, its DNA-mediated IL-12 immunotherapy currently in Phase II development for the treatment of advanced ovarian cancer and also provided an update on the OVATION 2 Study. The Company reported that approximately one-third, or 34 patients, of the anticipated 110 patients had been enrolled into the OVATION 2 Study, of which 20 are in the treatment arm and 14 are in the control. Of the 34 patients enrolled in the trial, 27 patients have had their interval debulking surgery with the following results:

- 80% of patients treated with GEN-1 had a R0 resection, which indicates a microscopically margin-negative complete resection in which no gross or microscopic tumor remains in the tumor bed.
- 58% of patients in the control arm had an R0 resection.
- This interim data represents a 38% improvement in R0 resection rates for GEN-1 patients compared with control arm patients and is consistent with the reported improvement in resection scores noted in the encouraging Phase I OVATION I Study, the manuscript of which has been submitted for peer review publication.

In February 2022, the Company announced that following a pre-planned interim safety review of 81 as treated patients randomized in the OVATION 2 Study, the Data Safety Monitoring Board (DSMB) unanimously recommended that the OVATION 2 Study continue treating patients with the dose of 100 mg/m^2. The DSMB also determined that safety is satisfactory with an acceptable risk/benefit, and that patients tolerate GEN-1 during a course of treatment that lasts up to six months. No dose-limiting toxicities were reported.

The Company also announced that over 75% of the projected 110 patients have been enrolled in the OVATION 2 Study. Interim clinical data from the first 39 patients who have undergone interval debulking surgery showed that the GEN-1 treatment arm is showing a 27% improvement in R0 surgical resection rate over the control arm.

Through May 15, 2022, 85% of the patients have been enrolled in the OVATION 2 study. To date no patient in the treatment arm of the phase 2 portion of the trial has received all 17 doses of the GEN-1 treatment as prescribed in the study protocol. Implications will be assessed in conjunction with the primary end point, PFS, results.

PLACCINE DNA VACCINE TECHNOLOGY PLATFORM

In January 2021, the Company announced the filing of a provisional U.S. patent application for a novel DNA-based, investigational vaccine for preventing or treating infections from a broad range of infectious agents including the coronavirus disease using its PLACCINE DNA vaccine technology platform (“PLACCINE”). The provisional patent covers a family of novel composition of multi-cistronic vectors and polymeric nanoparticles that comprise the PLACCINE DNA vaccine platform technology for preventing or treating infectious agents that have the potential for global pandemics, including the SARS-CoV-2 virus and its variations, using the Company’s TheraPlas platform technology.

Celsion’s PLACCINE DNA vaccine technology platform is characterized by a single multi-cistronic DNA plasmid vector expressing multiple pathogen antigens delivered with a synthetic delivery system. We believe it is adaptable to creating vaccines for a multitude of pathogens, including emerging pathogens leading to pandemics as well as infectious diseases that have yet to be effectively addressed with current vaccine technologies. This flexible vaccine platform is well supported by an established supply chain to produce any plasmid vector and its assembly into a respective vaccine formulation.

PLACCINE is an extension of the Company's synthetic, non-viral TheraPlas delivery technology currently in a Phase II trial for the treatment of late-stage ovarian cancer with GEN-1. Celsion's proprietary multifunctional DNA vaccine technology concept is built on the flexible PLACCINE technology platform that is amenable to rapidly responding to the SARS-CoV-2 virus, as well as possible future mutations of SARS-CoV-2, other future pandemics, emerging bioterrorism threats, and novel infectious diseases. Celsion's extensive experience with TheraPlas suggests that the PLACCINE-based nanoparticles are stable at storage temperatures of 4^{o}C to 25^{o}C, making vaccines developed on this platform easily suitable for broad world-wide distribution.

Celsion's vaccine approach is designed to optimize the quality of the immune response dictating the efficiency of pathogen clearance and patient recovery. Celsion has taken a multivalent approach in an effort to generate an even more robust immune response that not only results in a strong neutralizing antibody response, but also a more robust and durable T-cell response. Delivered with Celsion's synthetic polymeric system, the proprietary DNA plasmid is protected from degradation and its cellular uptake is facilitated.

COVID-19 Vaccine Overview

Emerging data from the recent literature indicates that the quality of the immune response as opposed to its absolute magnitude is what dictates SARS-CoV-2 viral clearance and recovery and that an ineffective or non-neutralizing enhanced antibody response might actually exacerbate disease. The first-generation COVID-19 vaccines were developed for rapid production and deployment and were not optimized for generating cellular responses that result in effective viral clearance. Though early data has indicated some of these vaccines to be over 95% effective, these first-generation vaccines were primarily designed to generate a strong antibody response and, while they have been shown to provide prophylactic protection against disease, the durability of this protection is currently unclear. The vast majority of these vaccines have been specifically developed to target the SARS-CoV-2 Spike (S) protein (antigen), though it is known that restricting a vaccine to a sole viral antigen creates selection pressure that can serve to facilitate the emergence of viral resistance. Indeed, even prior to full vaccine rollout, it has been observed that the S protein is a locus for rapid evolutionary and functional change as evidenced by the D614G, Y453F, 501Y.V2, and VUI-202012/01 mutations/deletions. This propensity for mutation of the S protein leads to future risk of efficacy reduction over time as these mutations accumulate.

Our Next Generation Vaccine Initiative

Celsion's vaccine candidate comprises a single plasmid vector containing the DNA sequence encoding multiple SARS-CoV-2 antigens. Delivery will be evaluated intramuscularly, intradermally, or subcutaneously with a non-viral synthetic DNA delivery carrier that facilitates vector delivery into the cells of the injected tissue and has potential immune adjuvant properties. Unique designs and formulations of Celsion vaccine candidates may offer several potential key advantages. The synthetic polymeric DNA carrier is an important component of the vaccine composition as it has the potential to facilitate the vaccine immunogenicity by improving vector delivery and, due to potential adjuvant properties, attract professional immune cells to the site of vaccine delivery.

Future vaccine technology will need to address viral mutations and the challenges of efficient manufacturing, distribution, and storage. We believe an adaptation of our TheraPlas technology, PLACCINE, has the potential to meet these challenges. Our approach is described in our provisional patent filing and is summarized as a DNA vaccine technology platform characterized by a single plasmid DNA with multiple coding regions. The plasmid vector is designed to express multiple pathogen antigens. It is delivered via a synthetic delivery system and has the potential to be easily modified to create vaccines against a multitude of infectious diseases, addressing:

- **Viral Mutations**: PLACCINE may offer broad-spectrum and mutational resistance (variants) by targeting multiple antigens on a single plasmid vector.
- **Durable Efficacy**: PLACCINE delivers a DNA plasmid-based antigen that could result in durable antigen exposure and a robust vaccine response to viral antigens.
- **Storage & Distribution**: PLACCINE allows for stability that is compatible with manageable vaccine storage and distribution.
- **Simple Dosing & Administration**: PLACCINE is a synthetic delivery system that should require a simple injection that does not require viruses or special equipment to deliver its payload.

We are conducting preliminary research associated with our recently announced proprietary DNA vaccine platform provisional patent filing. At the same time, we are redoubling our efforts and R&D resources in our immuno-oncology and next generation vaccine program.

On September 2, 2021, the Company announced results from preclinical *in vivo* studies showing production of antibodies and cytotoxic T-cell response specific to the spike antigen of SARS-CoV-2 when immunizing BALB/c mice with the Company's next-generation PLACCINE DNA vaccine platform. Moreover, the antibodies to SARS-CoV-2 spike antigen prevented the infection of cultured cells in a viral neutralization assay. The production of antibodies predicts the ability of PLACCINE to protect against SARS-CoV-2 exposure, and the elicitation of cytotoxic T-cell response shows the vaccine's potential to eradicate cells infected with SARS-CoV-2. These findings demonstrate the potential immunogenicity of Celsion's PLACCINE DNA vaccine, which is intended to provide broad-spectrum protection and resistance against variants by incorporating multiple viral antigens, to improve vaccine stability at storage temperatures of 4^{o} C and above, and to facilitate cheaper and easier manufacturing.

On January 31, 2022, the Company announced it had engaged BIOQUAL, Inc., a preclinical testing contract research organization, to conduct a non-human primate (NHP) challenge study with Celsion's DNA-based approach for a SARS-CoV-2 vaccine. The NHP pilot study follows the generation of encouraging mouse data and will evaluate the Company's lead vaccine formulations for safety, immunogenicity and protection against SARS-CoV-2. In completed preclinical studies, Celsion demonstrated safe and efficient immune responses including IgG response, neutralizing antibodies and T-cell responses that parallel the activity of commercial vaccines following intramuscular (IM) administration of novel vaccine compositions expressing a single viral antigen. In addition, vector development has shown promise of neutralizing activity against a range of SARS-CoV-2 variants. Celsion's novel DNA-based vaccines have been based on a simple intramuscular injection that does not require viral encapsulation or special equipment for administration.

In April 2022, the Company presented its PLACCINE platform technology at the 2022 World Vaccine Congress. In an oral presentation during a Session on Cancer and Immunotherapy, Dr. Khursheed Anwer, Celsion's Chief Science Officer, highlighted the Company's technology platform in his presentation entitled: "*Novel DNA Approaches for Cancer Immunotherapies and Multivalent Infectious Disease Vaccines*." PLACCINE is demonstrating the potential to be a powerful platform that provides for rapid design capability for targeting two or more different variants of a single virus in one vaccine. There is a clear public health need for vaccines today that address more than one strain of viruses, like COVID-19, which have fast evolving variant capability to offer the widest possible protection. Murine model data has thus far been encouraging and suggests that the Company's approach provides not only flexibility, but also the potential for efficacy comparable to benchmark COVID-19 commercial vaccines with durability to protect for more than 6 months.

In the murine model, our multivalent PLACCINE vaccine targeted against two different variants showed to be immunogenic as determined by the levels of IgG, neutralizing antibodies, and T-cell responses. Additionally, our multivalent vaccine was equally effective against two different variants of the COVID-19 virus while the commercial mRNA vaccine appeared to have lost some activity against the newer variant. The Company continues to evaluate our technology and look forward to the results from our ongoing proof-of-concept non-human primate study evaluating our PLACCINE vaccine against the challenge from live SARS-CoV-2 virus in the second quarter, with durability results available in the second half of this year.

THERMODOX® - DIRECTED CHEMOTHERAPY

Liposomes are manufactured submicroscopic vesicles consisting of a discrete aqueous central compartment surrounded by a membrane bilayer composed of naturally occurring lipids. Conventional liposomes have been designed and manufactured to carry drugs and increase residence time, thus allowing the drugs to remain in the bloodstream for extended periods of time before they are removed from the body. However, the current existing liposomal formulations of cancer drugs and liposomal cancer drugs under development do not provide for the immediate release of the drug and the direct targeting of organ specific tumors, two important characteristics that are required for improving the efficacy of cancer drugs such as doxorubicin. A team of research scientists at Duke University developed a heat-sensitive liposome that rapidly changes its structure when heated to a threshold minimum temperature of 39.5º to 42º Celsius. Heating creates channels in the liposome bilayer that allow an encapsulated drug to rapidly disperse into the surrounding tissue. This novel, heat-activated liposomal technology is differentiated from other liposomes through its unique low heat-activated release of encapsulated chemotherapeutic agents. We are able to use several available focused-heat technologies, such as radiofrequency ablation ("RFA"), microwave energy and high intensity focused ultrasound ("HIFU"), to activate the release of drugs from our novel heat sensitive liposomes.

Investigator sponsored THERMODOX® for the Treatment of Various Cancers

Celsion's Approach

While RFA uses extremely high temperatures (greater than 90° Celsius) to ablate the tumor, it may fail to treat micro-metastases in the outer margins of the ablation zone because temperatures in the periphery may not be high enough to destroy cancer cells. Our ThermoDox® treatment approach is designed to utilize the ability of RFA devices to ablate the center of the tumor while simultaneously thermally activating our ThermoDox® liposome to release its encapsulated doxorubicin to kill any remaining viable cancer cells throughout the heated region, including the ablation margins. This novel treatment approach is intended to deliver the drug directly to those cancer cells that survive RFA. This approach is designed to increase the delivery of the doxorubicin at the desired tumor site while potentially reducing drug exposure distant to the tumor site.

OPTIMA Study

The OPTIMA Study represents an evaluation of ThermoDox® in combination with a first line therapy, RFA, for newly diagnosed, intermediate stage HCC patients. The OPTIMA Study was designed to enroll up to 550 patients globally at approximately 65 clinical sites in the U.S., Canada, European Union (EU), China and other countries in the Asia-Pacific region and will evaluate ThermoDox® in combination with standardized RFA, which will require a minimum of 45 minutes across all investigators and clinical sites for treating lesions three to seven centimeters, versus standardized RFA alone. The primary endpoint for the OPTIMA Study is OS, and the secondary endpoints are progression free survival and safety. The statistical plan calls for two interim efficacy analyses by an independent Data Monitoring Committee ("DMC").

On February 24, 2014, we announced that the FDA provided clearance for the OPTIMA Study, which is a pivotal, double-blind, placebo-controlled Phase III trial of ThermoDox®, in combination with standardized RFA, for the treatment of primary liver cancer. The trial design of the OPTIMA Study is based on the comprehensive analysis of data from an earlier Phase III clinical trial called the HEAT Study (the "HEAT Study"). The OPTIMA Study is supported by a hypothesis developed from an OS analysis of a large subgroup of patients from the HEAT Study.

Post-hoc data analysis from our earlier Phase III HEAT Study suggests that ThermoDox® may substantially improve OS, when compared to the control group, in patients if their lesions undergo a 45-minute RFA procedure standardized for a lesion greater than 3 cm in diameter. Data from nine OS sweeps have been conducted since the top line progression free survival PFS data from the HEAT Study were announced in January 2013, with each data set demonstrating substantial improvement in clinical benefit over the control group with statistical significance. On August 15, 2016, we announced updated results from its final retrospective OS analysis of the data from the HEAT Study. These results demonstrated that in a large, well bounded, subgroup of patients with a single lesion (n=285, 41% of the HEAT Study patients), treatment with a combination of ThermoDox® and optimized RFA provided an average 54% risk improvement in OS compared to optimized RFA alone. The HR at this analysis is 0.65 (95% CI 0.45 - 0.94) with a p-value of 0.02. Median OS for the ThermoDox® group has been reached which translates into a two-year survival benefit over the optimized RFA group (projected to be greater than 80 months for the ThermoDox® plus optimized RFA group compared to less than 60 months projection for the optimized RFA only group). This information should be viewed with caution since it is based on a retrospective analysis of a subgroup.

In August 2018, the Company announced that the OPTIMA Study was fully enrolled. On August 5, 2019, the Company announced that the prescribed number of OS events had been reached for the first prespecified interim analysis of the OPTIMA Phase III Study. Following preparation of the data, the first interim analysis was conducted by the DMC. The DMC's pre-planned interim efficacy review followed 128 patient events, or deaths, which occurred in August 2019. On November 4, 2019, the Company announced that the DMC unanimously recommended the OPTIMA Study continue according to protocol. The recommendation was based on a review of blinded safety and data integrity from 556 patients enrolled in the OPTIMA Study. Data presented demonstrated that PFS and OS data appeared to be tracking with patient data observed at a similar point in the Company's subgroup of patients followed prospectively in the earlier Phase III HEAT Study, upon which the OPTIMA Study was based.

On April 15, 2020, the Company announced that the prescribed minimum number of events of 158 patient deaths had been reached for the second pre-specified interim analysis of the OPTIMA Phase III Study. The hazard ratio for success at 158 deaths is 0.70, which represents a 30% reduction in the risk of death compared with RFA alone. On July 13, 2020, the Company announced that it has received a recommendation from the DMC to consider stopping the global OPTIMA Study. The recommendation was made following the second pre-planned interim safety and efficacy analysis by the DMC on July 9, 2020. The DMC analysis found that the pre-specified boundary for stopping the trial for futility of 0.900 was crossed with an actual value of 0.903. However, the 2-sided p-value of 0.524 for this analysis provides uncertainty, subsequently, the DMC left the final decision of whether or not to stop the OPTIMA Study to Celsion. There were no safety concerns noted during the interim analysis. The Company followed the advice of the DMC considered its options either to stop the study or continue to follow patients after a thorough review of the data, and an evaluation of our probability of success.

On August 4, 2020, the Company issued a press release announcing it would continue following patients for OS, noting that the unexpected and marginally crossed futility boundary, suggested by the Kaplan-Meier analysis at the second interim analysis on July 9, 2020, may be associated with a data maturity issue. On October 12, 2020, the Company provided an update on the ongoing data analysis from its Phase III OPTIMA Study with ThermoDox® as well as growing interest among clinical investigators in conducting studies with ThermoDox® as a monotherapy or in combination with other therapies.

- Celsion engaged a global biometrics contract research organization, with forensic statistical analysis capability that specializes in data management, statistical consulting, statistical analysis and data sciences, with particular expertise in evaluating unusual data from clinical trials and experience with associated regulatory issues. The primary objective of the CRO's work was to determine the basis and reasoning behind continuing to follow patients for survival, and if there were outside influences that may have impacted the forecast of futility.

- In parallel, the Company submitted all OPTIMA Study clinical trial data to the National Institutes of Health (NIH) and with the expectation of receiving a report on the following:

    - A Cox Regression Analysis for single solitary lesions including minimum burn time per tumor volume, evaluating similarities to the hypothesis generated from the NIH paper published in the *Journal of Vascular and Interventional Radiology*, in which the key finding was that increased RFA heating time per tumor volume significantly improved OS in patients with single lesion HCC who were treated with RFA plus ThermoDox®, compared with patients treated with RFA alone.
    - A site-by-site evaluation for RFA heating time-based anomalies that may have contributed to the treatment arm performance.
    - An image-based evaluation comparing results from the OPTIMA Study to the data from the HEAT Study that led to the RFA heating time hypothesis.

On February 11, 2021, the Company provided a final update on the Phase III OPTIMA Study and the decision to stop following patients in the Study. Independent analyses conducted by a global biometrics contract research organization and the NIH, did not find any evidence of significance or factors that would justify continuing to follow patients for OS. Therefore, the Company notified all clinical sites to discontinue following patients. The OPTIMA Study database of 556 patients is now be frozen at 185 patient deaths. While the analyses did identify certain patient subgroups that appear to have had a clinical benefit, the Company concluded that it would not be in its best interest to pursue these retrospective findings as the regulatory hurdles supporting further discussion will be significant.

Investigator-Sponsored Studies with ThermoDox®

Celsion continues working closely and supporting investigations by others throughout the world in breast cancer, pancreatic cancer and in solid tumors in children. Following inquiries from the NIH, we renewed our Cooperative Research and Development Agreement (CRADA) with the Institute at a nominal cost, one goal of which is to pursue their interest in a study of ThermoDox® to treat patients with bladder cancer. Importantly, Celsion is developing a business model to support these investigator-sponsored studies in a manner that will not interfere with the Company's focus on our GEN-1 program and vaccine development initiative.

Below are summaries of several investigator-sponsored studies using ThermoDox®:

- Oxford University commenced enrolling patients in a Phase I pancreatic cancer study with ThermoDox® in combination with High Intensity Focused Ultrasound (HIFU) in July of 2021. The primary objective of this trial, the PanDox Study: Targeted Doxorubicin in Pancreatic Tumors, is to quantify the enhancement in intratumoral doxorubicin concentration when delivered with ThermoDox® and HIFU, versus doxorubicin monotherapy. This study is being undertaken pursuant to promising data in a mouse model of pancreatic cancer, which was published in the International Journal of Hyperthermia in 2018. That preclinical study showed a 23x increase in intratumoral doxorubicin concentration with ThermoDox® + HIFU, compared with a 2x increase in intratumoral doxorubicin concentration with free doxorubicin plus HIFU.

- Utrecht University in the Netherlands continues to enroll patients in a Phase I breast cancer study to determine the safety, tolerability and feasibility of ThermoDox® in combination with Magnetic Resonance Guided High Intensity Focused Ultrasound (MR-HIFU) hyperthermia and cyclophosphamide therapy for the local treatment of the primary tumor in metastatic breast cancer (mBC). This investigator-sponsored study, which is being funded by the Dutch Cancer Society, the Center for Translational Molecular Medicine (a public-private partnership in the Netherlands), will be conducted at University Medical Center Utrecht and will enroll up to 12 newly diagnosed mBC patients. Celsion will supply Thermodox® clinical product for the trial.

Business Plan

Since inception, the Company has incurred substantial operating losses, principally from expenses associated with the Company's research and development programs, clinical trials conducted in connection with the Company's product candidates, and applications and submissions to the U.S. Food and Drug Administration. The Company has not generated significant revenue and has incurred significant net losses in each year since our inception. As of December 31, 2021, the Company has incurred approximately $343 million of cumulative net losses. As of March 31, 2022, the Company had $47.3 million in cash and cash equivalents, short-term investments, interest receivable and restricted cash. The Company has substantial future capital requirements to continue its research and development activities and advance its product candidates through various development stages. The Company believes these expenditures are essential for the commercialization of its technologies.

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

In January 2020, the World Health Organization declared an outbreak of coronavirus, COVID-19, to be a "Public Health Emergency of International Concern," and the U.S. Department of Health and Human Services declared a public health emergency to aid the U.S. healthcare community in responding to COVID-19. This virus has spread to over 200 countries, including the U.S. Governments and businesses around the world have taken unprecedented actions to mitigate the spread of COVID-19, including, but not limited to, shelter-in-place orders, quarantines, significant restrictions on travel, as well as restrictions that prohibit many employees from going to work. Uncertainty with respect to the economic impacts of the pandemic has introduced significant volatility in the financial markets. The Company did not observe significant impacts on its business or results of operations during 2021 or thus far in 2022 due to the global emergence of COVID-19. While the extent to which COVID-19 impacts the Company's future results will depend on future developments, the pandemic and associated economic impacts could result in a material impact to the Company's future financial condition, results of operations and cash flows.

The Company's ability to raise additional capital may be adversely impacted by potential worsening global economic conditions and the recent disruptions to, and volatility in, financial markets in the U.S. and worldwide resulting from the ongoing COVID-19 pandemic. The disruptions caused by COVID-19 may also disrupt the clinical trials process and enrollment of patients. This may delay commercialization efforts. The Company continues to monitor its operating activities in light of these events, and it is reasonably possible that the virus could have a negative effect on the Company's financial condition and results of operations. The specific impact, if any, is not readily determinable as of the date of the Financial Statements.

The actual amount of funds the Company will need to operate is subject to many factors, some of which are beyond the Company's control. These factors include the following:

- the progress of research activities;
- the number and scope of research programs;
- the progress of preclinical and clinical development activities;
- the progress of the development efforts of parties with whom the Company has entered into research and development agreements;
- the costs associated with additional clinical trials of product candidates;
- the ability to maintain current research and development licensing arrangements and to establish new research and development and licensing arrangements;
- the ability to achieve milestones under licensing arrangements;
- the costs involved in prosecuting and enforcing patent claims and other intellectual property rights; and
- the costs and timing of regulatory approvals.

On July 13, 2020, the Company announced that it has received a recommendation from the independent DMC to consider stopping the global Phase III OPTIMA Study of ThermoDox® in combination with RFA for the treatment of HCC, or primary liver cancer. The recommendation was made following the second pre-planned interim safety and efficacy analysis by the DMC on July 9, 2020. The DMC's analysis found that the pre-specified boundary for stopping the trial for futility of 0.900 was crossed with an actual value of 0.903. The Company followed the advice of the DMC and considered its options to either stop the study or continue to follow patients after a thorough review of the data, and an evaluation of the probability of success. On February 11, 2021, the Company issued a letter to shareholders stating that the Company was notifying all clinical sites to discontinue following patients in the OPTIMA Study.

Since 2018, the Company has annually submitted applications to sell a portion of the Company's State of New Jersey net operating losses as part of the Technology Business Tax Certificate Program sponsored by The New Jersey Economic Development Authority. Under the program, emerging biotechnology companies with unused New Jersey NOLs and unused research and development credits are allowed to sell these benefits to other New Jersey-based companies. In 2018 and 2019, the Company sold cumulative New Jersey NOLs from 2011 to 2018 totalling $13 million and received net proceeds of $12.2 million. As part of the Technology Business Tax Certificate Program, the Company sold $1.5 million and $2.0 million of its New Jersey NOLs in 2021 and 2020, respectively. The sale of these net operating losses resulted in net proceeds to the Company of approximately $1.4 million in 2021 and $1.9 million in 2020. During 2021, the New Jersey State Legislature increased the maximum lifetime benefit per company from $15 million to $20 million, which will allow the Company to participate in this funding program in future years for up to an additional $3.5 million in net operating losses under this maximum lifetime benefit.

In June 2018, the Company entered into a Credit Agreement with Horizon Technology Finance Corporation ("Horizon") that provided $10 million in capital (the "Horizon Credit Agreement"). The obligations under the Horizon Credit Agreement are secured by a first-priority security interest in substantially all assets of Celsion other than intellectual property assets. Payments under the loan agreement are interest only (calculated based on one-month LIBOR plus 7.625%) for the first 24 months through July 2020, followed by a 21-month amortization period of principal and interest starting on August 1, 2020 and ending through the scheduled maturity date on April 1, 2023. On August 28, 2020, in connection with an Amendment to the Horizon Credit Agreement, Celsion repaid $5 million of the $10 million loan and $0.2 million in related end of term charges, and the remaining $5 million in obligations were restructured. As more fully discussed in Note 11 to the Financial Statements, in June 2021, the Company entered into a $10 million loan facility with SVB. The Company immediately used $6 million from this facility to retire all outstanding indebtedness with Horizon. The remaining $4 million under the Silicon Valley Bank loan facility ("SVB Loan Facility") will be available to be drawn down up to 12 months after closing. The funding is in the form of money market secured indebtedness bearing interest at a calculated WSJ Prime-based variable rate (currently 3.25%). Payments under the loan agreement are interest only for the first 24 months after loan closing, followed by a 24-month amortization period of principal and interest through the scheduled maturity date.

The Company has based its estimates on assumptions that may prove to be wrong. The Company may need to obtain additional funds sooner or in greater amounts than it currently anticipates. Potential sources of financing include strategic relationships, public or private sales of the Company's shares or debt, the sale of the Company's New Jersey NOLs and other sources. If the Company raises funds by selling additional shares of common stock or other securities convertible into common stock, the ownership interest of existing stockholders may be diluted. See Note 12 for a discussion of the Company's issuance and redemption of Series A Preferred Stock and Series B Preferred Stock as well as receiving gross proceeds of $7.0 million dollars through selling approximately 1.3 million shares of common stock in a registered direct offering during April 2022.

Financing Overview

Equity, Debt and Other Forms of Financing

Since 2018, the Company has annually submitted applications to sell a portion of the Company's State of New Jersey net operating losses as part of the NOL Program sponsored by The New Jersey Economic Development Authority. Under the program, emerging biotechnology companies with unused New Jersey NOLs and unused research and development credits are allowed to sell these benefits to other New Jersey-based companies. In 2018 and 2019, the Company sold cumulative New Jersey NOLs from 2011 to 2018 totalling $13 million and received net proceeds of $12.2 million. As part of the NOL Program, the Company sold $1.5 million and $2.0 million of its New Jersey NOLs in 2021 and 2020, respectively. The sale of these net operating losses resulted in net proceeds to the Company of approximately $1.4 million in 2021 and $1.9 million in 2020. During 2021, the New Jersey State Legislature increased the maximum lifetime benefit per company from $15 million to $20 million, which will allow the Company to participate in this funding program in future years for up to an additional $3.5 million in New Jersey NOLs under this maximum lifetime benefit.

As previously discussed, the Company entered into a Credit Agreement with Horizon Technology Finance Corporation ("Horizon") that provided $10 million in capital (the "Horizon Credit Agreement") in June 2018. In August, 2020, in connection with an Amendment to the Horizon Credit Agreement, Celsion repaid $5 million of the $10 million loan and $0.2 million in related end of term charges, and the remaining $5 million in obligations were restructured. In June 2021, the Company entered into a $10 million loan facility with Silicon Valley Bank. The Company immediately used $6 million from this facility to retire all outstanding indebtedness with Horizon Technology Finance Corporation. The remaining $4 million will be available to be drawn down up to 12 months after closing. Payments under the loan agreement are interest only for the first 24 months after loan closing, followed by a 24-month amortization period of principal and interest through the scheduled maturity date.

In September 2018, the Company filed with the SEC a $75 million shelf registration statement on Form S-3 (the 2018 Shelf Registration Statement) that allows the Company to issue any combination of common stock, preferred stock or warrants to purchase common stock or preferred stock. This shelf registration was declared effective on October 12, 2018 and was fully utilized by the end of January 2021.

On March 19, 2021, the Company filed with the SEC a new $100 million shelf registration statement on Form S-3 (File No. 333-254515) (the "2021 Registration Statement") that allows the Company to issue any combination of common stock, preferred stock or warrants to purchase common stock or preferred stock. This shelf registration was declared effective on March 30, 2021.

During 2021 and 2022 through the date of this Quarterly Report filed on Form 10-Q, we issued a total of 4.4 million shares of common stock as discussed below for an aggregate $65.4 million in gross proceeds.

- On December 4, 2018, the Company entered into the Capital on Demand Agreement with JonesTrading, pursuant to which the Company may offer and sell, from time to time, through JonesTrading shares of Common Stock having an aggregate offering price of up to $16.0 million. During 2021, the Company sold 0.5 million shares under the Capital on Demand Agreement, receiving approximately $6.9 million in gross proceeds under the Capital on Demand Agreement.

- On January 22, 2021, the Company entered into a Securities Purchase Agreement (the "January 2021 Purchase Agreement") with several institutional investors, pursuant to which the Company agreed to issue and sell, in a registered direct offering (the "January 2021 Offering"), an aggregate of 1,728,395 shares of the Company's common stock at an offering price of $20.25 per share for gross proceeds of approximately $35 million before the deduction of the January 2021 Placement Agents (as defined below) fee and offering expenses. The January 2021 Purchase Agreement contains customary representations, warranties and agreements by the Company and customary conditions to closing. The closing of the January 2021 Offering occurred on January 26, 2021. In connection with the January 2021 Offering, the Company entered into a placement agent agreement with A.G.P./Alliance Global Partners ("AGP" and together with Brookline Capital Markets, the "January 2021 Placement Agents") pursuant to which the Company agreed to pay the January 2021 Placement Agents a cash fee equal to 7% of the aggregate gross proceeds raised from the sale of the securities sold in the January 2021 Offering and reimburse the January 2021 Placement Agents for certain of their expenses in an amount not to exceed $82,500.

- On March 31, 2021, the Company entered into a Securities Purchase Agreement (the "March 2021 Purchase Agreement") with several institutional investors, pursuant to which the Company agreed to issue and sell, in a registered direct offering (the "March 2021 Offering"), an aggregate of 769,230 shares of the Company's common stock, at an offering price of $19.50 per share for gross proceeds of approximately $15 million before the deduction of the placement agents fee and offering expenses. The shares were offered by the Company pursuant to the 2021 Registration Statement. The closing of the offering occurred on April 5, 2021.

  In connection with the March 2021 Offering, the Company entered into a placement agent agreement with AGP, as lead placement agent (together with JonesTrading Institutional Services LLC and Brookline Capital Markets, a division of Arcadia Securities, LLC, serving as co-placement agents, the "March 2021 Placement Agents"), pursuant to which the Company agreed to pay the March 2021 Placement Agents an aggregate cash fee equal to 7% of the aggregate gross proceeds raised from the sale of the securities sold in the offering and reimburse the Placement Agents for certain of their expenses in an amount not to exceed $82,500.

- On January 10, 2022, the Company entered into the Preferred Stock Purchase Agreement with several institutional investors, pursuant to which the Company agreed to issue and sell, in the Preferred Offerings, (i) 50,000 shares of Series A Preferred Stock, and (ii) 50,000 shares of Series B Preferred Stock, in each case at an offering price of $285 per share, representing a 5% original issue discount to the stated value of $300 per share, for gross proceeds of each Preferred Offering of $14.25 million, or approximately $28.50 million in the aggregate for the Preferred Offerings, before the deduction of the Placement Agent's (as defined below) fee and offering expenses. The shares of Series A Preferred Stock have a stated value of $300 per share and are convertible, at a conversion price of $13.65 per share, into 1,098,901 shares of common stock (subject in certain circumstances to adjustments). The shares of Series B Preferred Stock have a stated value of $300 per share and are convertible, at a conversion price of $15.00 per share, into 1,000,000 shares of common stock (subject in certain circumstances to adjustments). The closing of the Preferred Offerings occurred on January 13, 2022.

The Company held a special meeting of stockholders to consider an amendment (the "Amendment") to the Company's Certificate of Incorporation, as amended (the "Charter"), to effect a reverse stock split of the outstanding shares of common stock ("Common Stock") by a ratio to be determined by the Board of Directors of the Company (the "Reverse Stock Split"), ranging from 7-to-1 to, 10-to-1, 12-to-1 or 15-to-1. The investors have agreed in the Purchase Agreement to not transfer, offer, sell, contract to sell, hypothecate, pledge or otherwise dispose of the shares of the Preferred Stock until the Reverse Stock Split, to vote the shares of the Series A Preferred Stock purchased in the Preferred Offerings in favor of such Amendment and to vote the shares of the Series B Preferred Stock purchased in the Preferred Offerings in a manner that "mirrors" the proportions on which the shares of Common Stock (excluding any shares of Common Stock that are not voted) and Series A Preferred Stock are voted on the Reverse Stock Split and the Amendment.

The holders of Preferred Stock will be entitled to dividends, on an as-if converted basis, equal to dividends actually paid, if any, on shares of Common Stock. The Preferred Stock is convertible into shares of Common Stock at a rate of $13.95 per share for the Series A Preferred Stock and $15.00 per share for the Series B Preferred Stock. The conversion price can be adjusted pursuant to the Certificate of Designation. The Preferred Stock can be converted at the option of the holder at any time after the Company has received stockholder approval for the Reverse Stock Split and filed the requisite Amendment with the Delaware Secretary of State's office to effectuate the Reverse Stock Split (the "Reverse Stock Split Date"), subject to beneficial ownership limitations set forth in the applicable Certificate of Designation. In addition, on or after the Reverse Stock Split Date, and subject to the satisfaction of certain conditions, the Company can cause the holders of the Preferred Stock to convert their shares of Preferred Stock, subject to such beneficial ownership limitations.

Each holder of the Preferred Stock has the right to cause the Company to redeem all or part of their shares of the Preferred Stock from the earlier of receipt of stockholder approval of the reverse stock split or of 90 days following the original issue date until 120 days following the original issue date, the "Redemption Date," in cash at a redemption price equal to 105% of the stated value plus an amount equal to accumulated but unpaid dividends, if any, on such shares (whether or not earned or declared, but excluding interest on such dividends) up to, but excluding, the Redemption Date. In connection with the Preferred Offerings, the Company entered into a placement agent agreement (the "Placement Agent Agreement") with AGP in which the Company paid $1,000,000 as a placement agent fee and $110,000 to reimburse AGP for certain expenses related to the Preferred Stock offering.

On March 3, 2022, the Company redeemed for cash at a price equal to 105% of the $300 stated value per share all of its 50,000 outstanding shares of Series A Preferred Stock and its 50,000 outstanding Series B Preferred Stock. As a result, all shares of the Preferred Stock have been retired and are no longer outstanding and Celsion's only class of outstanding stock is its common stock. Each share of common stock entitles the holder to one vote.

The Series A Preferred Stock and Series B Preferred Stock were recorded as a liability on the condensed consolidated balance sheet during the first quarter of 2022 until the preferred shares were redeemed during the same quarter. The Company recognized $4,551,567 as interest expense for the preferred shares during the first quarter of 2022, which was composed of: (a) $3,000,000 as the difference between the redemption price for the preferred shares and the net proceeds received from the issuance of the preferred shares, (b) $1,110,000 paid to AGP as a placement agent fee and reimbursement for certain expenses, and (c) $441,567 in legal fees recognized in the first quarter that were attributed to the preferred shares.

The Placement Agent Agreement contains customary representations, warranties and agreements by the Company, customary conditions to closing, indemnification obligations of the Company and AGP, including for liabilities under the Securities Act, other obligations of the parties and termination provisions.

- On April 6, 2022, the Company entered into a Securities Purchase Agreement (the "April 2022 Purchase Agreement") with several institutional investors, pursuant to which the Company agreed to issue and sell, in a registered direct offering (the "April 2022 Offering"), an aggregate of 1,328,274 shares of the Company's common stock at an offering price of $5.27 per share for gross proceeds of $7.0 million before the deduction of the April 2022 Placement Agent (as defined below) fees and offering expenses. The April 2022 Purchase Agreement contains customary representations, warranties and agreements by the Company and customary conditions to closing. The closing of the April 2022 Offering occurred on April 8, 2022. In connection with the April 2022 Offering, the Company entered into a placement agent agreement with A.G.P./Alliance Global Partners (the "April 2022 Placement Agent") pursuant to which the Company agreed to pay the April 2022 Placement Agent a cash fee equal to 6.5% of the aggregate gross proceeds raised from the sale of the securities sold in the April 2022 Offering and reimburse the April 2022 Placement Agent for certain of their expenses in an amount not to exceed $50,000.

Significant Accounting Policies

Our significant accounting policies are more fully described in Note 1 to our consolidated financial statements included in our 2021 Annual Report on Form 10-K for the year ended December 31, 2021 filed with the SEC on March 31, 2022. See Note 4 to the Condensed Consolidated Financial Statements contained in this Quarterly Report on Form 10-Q.

As a clinical stage biopharmaceutical company, our business, and our ability to execute our strategy to achieve our corporate goals are subject to numerous risks and uncertainties. Material risks and uncertainties relating to our business and our industry are described in "Item 1A. Risk Factors" under "Part II: Other Information" included herein.

FINANCIAL REVIEW FOR THE THREE MONTHS ENDED MARCH 31, 2022 AND 2021

Results of Operations

For the three months ended March 31, 2022 our net loss was $10.5 million compared to a net loss of $5.7 million for the same three-month period of 2021.

With $47.3 million in cash and cash equivalents, short-term investments, interest receivable and restricted cash, coupled with $7.0 million of gross proceeds received in a registered direct offering in April 2022 and approximately $3.5 million of future planned sales of the Company's State of New Jersey net operating losses, the Company believes it has sufficient capital resources to fund its operations into the second quarter of 2025.

	Three Months Ended March 31,			
	(In thousands)		Change Increase (Decrease)	
	2022	2021		
Licensing Revenue:	$ 125	$ 125	$ -	-%
Operating Expenses:				
Clinical Research	1,321	1,154	167	14.5%
Chemistry, Manufacturing and Controls (CMC)	1,774	1,418	356	25.1%
Research and development expenses	3,095	2,572	523	20.3%
General and administrative expenses	2,872	2,936	(64)	(2.2)%
Total operating expenses	5,967	5,508	459	8.3%
Loss from operations	$ (5,842)	$ (5,383)	$ (459)	(8.5)%

Licensing Revenue

In January 2013, we entered into a technology development contract with Hisun, pursuant to which Hisun paid us a non-refundable technology transfer fee of $5.0 million to support our development of ThermoDox® in the China territory. The $5.0 million received as a non-refundable payment from Hisun in the first quarter 2013 has been recorded to deferred revenue and will be amortized over the ten-year term of the agreement; therefore, we recorded deferred revenue of $125,000 in each of the first quarters of 2022 and 2021.

Research and Development Expenses

Research and development ("R&D") expenses were $3.1 million in the first quarter of 2022 compared $2.6 million in same period of 2021. Costs associated the OVATION 2 Study were $0.4 million in each of the first quarters of 2022 and 2021. Costs associated with the OPTIMA Study were $0.1 million in the each of the first quarters of 2022 and 2021. In July 2020, the Company unblinded the OPTIMA Study at the recommendation of the DMC to halt the study due to futility. Other clinical and regulatory costs were $0.8 million the first quarter of 2022 compared to $0.6 million in the same period of 2021. R&D costs associated with the development of GEN-1 to support the OVATION 2 Study as well as development of the PLACCINE DNA vaccine technology platform increased to $1.5 million in the first quarter of 2022 compared to $1.0 million in the same period of 2021. CMC costs decreased to $0.3 million in the first quarter of 2022 compared to $0.5 million in the same period of 2021.

General and Administrative Expenses

General and administrative expenses were $2.9 million in in each of the first quarters of 2022 and 2021. Lower non-cash stock compensation expense of $0.4 million was offset by higher salaries and benefits, higher professional fees (largely legal fees to defend various lawsuits filed after the announcement in July 2020 of the OPTIMA Phase III clinical results) and higher premiums for directors' and officers' insurance during the first quarter of 2022 when compared to the same prior year period.

Impairment of IPR&D Liability

IPR&D is reviewed for impairment at least annually as of our third quarter ended September 30 by assessing if any events or changes in circumstances have occurred which indicate that the carrying value of the assets might not be recoverable. Due to the continuing deterioration of public capital markets in the biotech industry and its impact on market capitalization rates in this section, IPR&D related to the ovarian cancer indication was reviewed for impairment during the first quarter of 2022. Based on the Company's analysis of the IPR&D, the Company has concluded that it is not more than likely that the asset had been impaired as of March 31, 2022. As such, no impairment charges for IPR&D related to the ovarian cancer indication were recorded during the first quarter of 2022.

Change in Earn-out Milestone Liability and Warrant Expense

On March 28, 2019, the Company and EGWU, Inc. entered into an amendment to its purchase agreement ("Amended Asset Purchase Agreement"), whereby payment of the earnout milestone liability related to the Ovarian Cancer Indication of $12.4 million had been modified. The Company has the option to make the payment as follows:

a) $7.0 million in cash within 10 business days of achieving the milestone; or
b) $12.4 million in cash, common stock of the Company, or a combination of either, within one year of achieving the milestone.

As of March 31, 2022, and December 31, 2021, the Company fair valued the earn-out milestone liability at $5.4 million. In assessing the fair value of the earnout milestone liability at December 31, 2021, the Company considered each of the settlement provisions per the Amended Asset Purchase Agreement and equally weighted the probability of a cash or cash and common stock payment.

Investment income and interest expense UPDATE

The Company recognized interest expense of $4.6 million in the first quarter of 2022. As more fully discussed in Notes 11 and 12 of the financial statements, the Company expensed $94,690 in interest due to the Silicon Valley Bank loan facility and $4,551,567 in interest attributed to the Series A Preferred Stock and Series B Preferred Stock during the first quarter of 2022. Interest expense was $0.2 million for the first quarter of 2021.

Investment income from its short-term investments was insignificant in the first quarter of 2021 and 2022.

Financial Condition, Liquidity and Capital Resources

Since inception we have incurred significant losses and negative cash flows from operations. We have financed our operations primarily through the net proceeds from the sales of equity, credit facilities and amounts received under our product licensing agreement with Yakult and our technology development agreement with Hisun. The process of developing ThermoDox®, GEN-1 and other product candidates and technologies requires significant research and development work and clinical trial studies, as well as significant manufacturing and process development efforts. We expect these activities, together with our general and administrative expenses to result in significant operating losses for the foreseeable future. Our expenses have significantly and regularly exceeded our revenue, and we had an accumulated deficit of $343 million at March 31, 2022.

At March 31, 2022, we had total current assets of $43.9 million and current liabilities of $6.6 million, resulting in net working capital of $37.3 million. At March 31, 2022, we had cash and cash equivalents, short-term investments, interest receivable on short term investments and money market investments ($6.0 million of which is included in other assets) of $47.3 million. At December 31, 2021 we had total current assets of $51.9 million and current liabilities of $6.8 million, resulting in net working capital of $45.1 million. We have substantial future capital requirements to continue our research and development activities and advance our product candidates through various development stages. The Company believes these expenditures are essential for the commercialization of its technologies.

Net cash used in operating activities for the first three months of 2022 was $8.0 million. Net cash provided by investing activities was $16.8 million during the first three months of 2022. No cash was provided by financing activities during the first three months of 2022. With $47.3 million in cash and cash equivalents, short-term investments, interest receivable and restricted cash, coupled with $7.0 million of gross proceeds received in a registered direct offering in April 2022 and approximately $3.5 million of future planned sales of the Company's State of New Jersey net operating losses, the Company believes it has sufficient capital resources to fund its operations into the second quarter of 2025.

We expect to seek additional capital through further public or private equity offerings, debt financing, additional strategic alliance and licensing arrangements, collaborative arrangements, potential sales of our net operating losses, or some combination of these financing alternatives. If we raise additional funds through the issuance of equity securities, the percentage ownership of our stockholders could be significantly diluted, and the newly issued equity securities may have rights, preferences, or privileges senior to those of the holders of our common stock. If we raise funds through the issuance of debt securities, those securities may have rights, preferences, and privileges senior to those of our common stock. If we seek strategic alliances, licenses, or other alternative arrangements, such as arrangements with collaborative partners or others, we may need to relinquish rights to certain of our existing or future technologies, product candidates, or products we would otherwise seek to develop or commercialize on our own, or to license the rights to our technologies, product candidates, or products on terms that are not favorable to us. The overall status of the economic climate could also result in the terms of any equity offering, debt financing, or alliance, license, or other arrangement being even less favorable to us and our stockholders than if the overall economic climate were stronger. We also will continue to look for government sponsored research collaborations and grants to help offset future anticipated losses from operations and, to a lesser extent, interest income.

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

Off-Balance Sheet Arrangements and Contractual Obligations

None.

Item 3. QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISK

The primary objective of our investment activities is to preserve our capital until it is required to fund operations while at the same time maximizing the income, we receive from our investments without significantly increasing risk. Our cash flow and earnings are subject to fluctuations due to changes in interest rates in our investment portfolio. We maintain a portfolio of various issuers, types, and maturities. These securities are classified as available-for-sale and, consequently, are recorded on the condensed consolidated balance sheet at fair value with unrealized gains or losses reported as a component of accumulated other comprehensive loss included in stockholders' equity.

Item 4. CONTROLS AND PROCEDURES

We have carried out an evaluation, under the supervision and with the participation of management, including our principal executive officer and principal financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as that term is defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended. Based on that evaluation, our principal executive officer and principal financial officer have concluded that, as of March 31, 2022, which is the end of the period covered by this report, our disclosure controls and procedures are effective at the reasonable assurance level in alerting them in a timely manner to material information required to be included in our periodic reports with the SEC.

There were no changes in our internal control over financial reporting identified in connection with the evaluation that occurred during the period covered by this report that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

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

PART II: OTHER INFORMATION

Item 1. Legal Proceedings

On October 29, 2020, a putative securities class action was filed against the Company and certain of its officers and directors (the "Spar Individual Defendants") in the U.S. District Court for the District of New Jersey, captioned Spar v. Celsion Corporation, et al., Case No. 1:20-cv-15228. The plaintiff alleges that the Company and Individual Defendants made false and misleading statements regarding one of the Company's product candidates, ThermoDox®, and brings claims for damages under Section 10(b) of the Exchange Act and Rule 10b-5 promulgated thereunder against all Defendants, and under Section 20(a) of the Exchange Act of 1934 against the Spar Individual Defendants. The Company believes that the case is without merit and intends to defend it vigorously. Due to the early stage of the case neither the likelihood that a loss, if any, will be realized, nor an estimate of possible loss or range of loss, if any, can be determined.

In February 2021, a derivative shareholder lawsuit was filed against the Company, as the nominal defendant, and certain of its directors and officers as defendants in the U.S. District Court for the District of New Jersey, captioned *Fidler v. Michael H. Tardugno et al.*, Case No. 3:21-cv-02662. The plaintiff alleges breach of fiduciary duty and other claims arising out of alleged statements made by certain of the Company's directors and/or officers regarding ThermoDox®. The Company believes it has meritorious defenses to these claims and intends to vigorously contest this suit. Due to the early stage of the case neither the likelihood that a loss, if any, will be realized, nor an estimate of possible loss or range of loss, if any, can be determined.

In August 2021, a complaint regarding a corporate books and records demand was filed against the Company in the Court of Chancery of the State of Delaware, captioned *Pacheco v. Celsion Corporation*, Case No. 2021-0705. The plaintiff alleges he is entitled to inspect the Company's books and records concerning the OPTIMA Study and other materials. The Company believes that the scope of the demand is without merit and intends to defend it vigorously. Due to the early stage of the case neither the likelihood that a loss, if any, will be realized, nor an estimate of possible loss or range of loss, if any, can be determined.

Item 1A. Risk Factors

There have been no material changes to our risk factors from those disclosed under "Risk Factors" in Part I, Item 1A of our 2021 Annual Report on Form 10-K. The risks and uncertainties described in our 2021 Annual Report on Form 10-K are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also materially adversely affect our business, financial condition or results of operations.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

None

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

None.

Item 6. Exhibits.

3.1	Certificate of Designation of Preferences, Rights and Limitations of Series A Convertible Redeemable Preferred Stock, incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of the Company, filed on January 11, 2022 (SEC File No. 001-15911).
3.2	Certificate of Designation of Preferences, Rights and Limitations of Series B Convertible Redeemable Preferred Stock, incorporated by reference to Exhibit 3.2 to the Current Report on Form 8-K of the Company, filed on January 11, 2022 (SEC File No. 001-15911).
3.3	Certificate of Amendment to Certificate of Incorporation of Celsion Corporation, incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of the Company, filed on February 28, 2022 (SEC File No. 001-15911)
10.1	Securities Purchase Agreement between Celsion Corporation and the investors therein dated April 6, 2022, incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed on April 7, 2022 (SEC File No. 001-15911).
10.2	Form of Securities Purchase Agreement between Celsion Corporation and the investors therein dated January 10, 2022, incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company, filed on January 11, 2022 (SEC File No. 001-15911).
31.1+	Certification of Chief Executive Officer pursuant to Rule 13a-14(a)/15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2+	Certification of Chief Financial Officer pursuant to Rule 13a-14(a)/15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101**	The following materials from the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2022 formatted in Inline XBRL (Extensible Business Reporting Language): (i) the unaudited Consolidated Balance Sheets, (ii) the unaudited Consolidated Statements of Operations, (iii) the unaudited Consolidated Statements of Comprehensive Loss, (iv) the unaudited Consolidated Statements of Cash Flows, (v) the unaudited Consolidated Statements of Change in Stockholders' Equity (Deficit), and (vi) Notes to Consolidated Financial Statements.
+	Filed herewith.
*	Exhibit 32.1 is being furnished and shall not be deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liability of that section, nor shall such exhibit be deemed to be incorporated by reference in any registration statement or other document filed under the Securities Act of 1933, as amended, or the Securities Exchange Act, except as otherwise stated in such filing.
**	Inline XBRL information is filed herewith.
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

May 16, 2022

CELSION CORPORATION

Registrant

By: */s/ Michael H. Tardugno*
Michael H. Tardugno
Chairman, President and Chief Executive Officer

By: */s/ Jeffrey W. Church*
Jeffrey W. Church
Executive Vice President and Chief Financial Officer

Exhibit 31.1

CELSION CORPORATION
CERTIFICATION

I, Michael H. Tardugno, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Celsion Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)), and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15 (f)), for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Celsion Corporation

May 16, 2022

By:*/s/ Michael H. Tardugno*
Michael H. Tardugno
Chairman, President and Chief Executive Officer

Exhibit 31.2

CELSION CORPORATION
CERTIFICATION

I, Jeffrey W. Church, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Celsion Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)), and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15 (f)), for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Celsion Corporation

May 16, 2022

By: */s/ Jeffrey W. Church*
Jeffrey W. Church
Executive Vice President and Chief Financial Officer

Exhibit 32.1

CELSION CORPORATION

SECTION 1350 CERTIFICATIONS*

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), each of the undersigned hereby certifies that, to the best of his knowledge, (i) the Quarterly Report on Form 10-Q for the period ended March 31, 2022 of Celsion Corporation (the "Company") filed with the Securities and Exchange Commission on the date hereof fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act and (ii) the information contained in such report fairly presents, in all material respects, the financial condition and results of operations of the Company.

May 16, 2022

By: */s/ Michael H. Tardugno*
Michael H. Tardugno
Chairman, President and Chief Executive Officer

May 16, 2022

By: */s/ Jeffrey W. Church*
Jeffrey W. Church
Executive Vice President and Chief Financial Officer

* This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Exchange Act (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.