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

FORM 10-Q

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

For the quarterly period ended September 30, 2021

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: 0-51891

INTERNATIONAL STEM CELL CORPORATION

(Exact name of Registrant as specified in its charter)

Delaware	**20-4494098**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
5950 Priestly Drive Carlsbad, CA	**92008**
(Address of Principal Executive Offices)	**(Zip Code)**

(760) 940-6383
(Registrant's telephone number)

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

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
None	None	None

Indicated 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 X 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 X 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.

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

If an emerging growth company, indicate by check mark if the registrant 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 X

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

As of November 10, 2021, the Registrant had 8,004,389 shares of Common Stock outstanding.

International Stem Cell Corporation and Subsidiaries

Form 10-Q

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PART I – FINANCIAL INFORMATION

Item 1. Condensed Consolidated Financial Statements (Unaudited)

International Stem Cell Corporation and Subsidiaries
Condensed Consolidated Balance Sheets
(In thousands, except share and par value data)
(Unaudited)

	September 30, 2021	December 31, 2020
Assets		
Current assets:		
Cash	$ 505	$ 689
Accounts receivable, net	668	403
Inventory, net	1,139	917
Prepaid expenses and other current assets	174	174
Total current assets	2,486	2,183
Non-current inventory	365	371
Property and equipment, net	419	534
Intangible assets, net	962	1,262
Right-of-use assets	659	874
Deposits and other assets	46	63
Total assets	$ 4,937	$ 5,287
Liabilities, Redeemable Convertible Preferred Stock and Stockholders' Deficit		
Current liabilities:		
Accounts payable	$ 611	$ 360
Accrued liabilities	284	386
Operating lease liabilities, current	292	346
Advances	250	250
Related party note payable	2,912	—
Paycheck Protection Program loan, current	—	141
Total current liabilities	4,349	1,483
Related party note payable	—	2,475
Paycheck Protection Program loan, net of current portion	—	517
Operating lease liabilities, net of current portion	645	845
Total liabilities	4,994	5,320
Commitments and contingencies (Note 8)		
Series D redeemable convertible preferred stock, $0.001 par value; 50 shares authorized; 43 shares issued and outstanding; liquidation preference of $4,300 at September 30, 2021 and December 31, 2020	4,300	4,300
Stockholders' Deficit:		
Non-redeemable convertible preferred stock, $0.001 par value; 10,004,310 and 10,006,310 shares authorized, 5,254,310 and 5,255,124 shares issued and outstanding, liquidation preference of $9,763 and $10,565 at September 30, 2021 and December 31, 2020, respectively	5	5
Common stock, $0.001 par value; 120,000,000 shares authorized; 8,004,389 and 7,539,089 shares issued and outstanding at September 30, 2021 and December 31, 2020, respectively	8	8
Additional paid-in capital	105,293	104,769
Accumulated deficit	(109,663)	(109,115)
Total stockholders' deficit	(4,357)	(4,333)
Total liabilities, redeemable convertible preferred stock and stockholders' deficit	$ 4,937	$ 5,287

See accompanying notes to the unaudited condensed consolidated financial statements.

International Stem Cell Corporation and Subsidiaries
Condensed Consolidated Statements of Operations
(In thousands, except per share data)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Product sales	$ 1,842	$ 1,481	$ 5,333	$ 5,652
Operating expenses:				
Cost of sales	814	563	2,200	2,138
Research and development	165	255	492	758
Selling and marketing	352	403	1,049	1,347
General and administrative	1,134	1,058	3,190	3,494
Total operating expenses	2,465	2,279	6,931	7,737
Loss from operations	(623)	(798)	(1,598)	(2,085)
Other income (expense):				
Gain on forgiveness of debt	476	—	1,137	—
Change in fair value of warrant liability	—	282	—	167
Interest expense	(18)	(28)	(87)	(85)
Total other income (expense), net	458	254	1,050	82
Net loss	$ (165)	$ (544)	$ (548)	$ (2,003)
Net loss per common share, basic and diluted	$ (0.02)	$ (0.07)	$ (0.07)	$ (0.27)
Weighted-average common shares used to compute net loss per share, basic and diluted	8,004	7,539	7,772	7,539

See accompanying notes to the unaudited condensed consolidated financial statements.

International Stem Cell Corporation and Subsidiaries
Condensed Consolidated Statements of Changes in Redeemable Convertible Preferred Stock and Stockholders' Deficit
(In thousands)
(Unaudited)

	Three and Nine Months Ended September 30, 2021								
	Series D Redeemable Convertible Preferred Stock		Non-redeemable Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount	Shares	Amount			
Balance at December 31, 2020	—	$ 4,300	5,255	$ 5	7,539	$ 8	$ 104,769	$ (109,115)	$ (4,333)
Stock-based compensation	—	—	—	—	—	—	234	—	234
Net loss	—	—	—	—	—	—	—	(599)	(599)
Balance at March 31, 2021	—	4,300	5,255	5	7,539	8	105,003	(109,714)	(4,698)
Conversion of Series I-1 preferred stock	—	—	(1)	—	465	—	—	—	—
Stock-based compensation	—	—	—	—	—	—	172	—	172
Net income	—	—	—	—	—	—	—	216	216
Balance at June 30, 2021	—	4,300	5,254	5	8,004	8	105,175	(109,498)	(4,310)
Stock-based compensation	—	—	—	—	—	—	118	—	118
Net loss	—	—	—	—	—	—	—	(165)	(165)
Balance at September 30, 2021	—	$ 4,300	5,254	$ 5	8,004	$ 8	$ 105,293	$ (109,663)	$ (4,357)

	Three and Nine Months Ended September 30, 2020								
	Series D Redeemable Convertible Preferred Stock		Non-redeemable Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount	Shares	Amount			
Balance at December 31, 2019	—	$ 4,300	5,255	$ 5	7,539	$ 8	$ 103,490	$ (106,391)	$ (2,888)
Stock-based compensation	—	—	—	—	—	—	418	—	418
Net loss	—	—	—	—	—	—	—	(373)	(373)
Balance at March 31, 2020	—	4,300	5,255	5	7,539	8	103,908	(106,764)	(2,843)
Stock-based compensation	—	—	—	—	—	—	324	—	324
Net loss	—	—	—	—	—	—	—	(1,086)	(1,086)
Balance at June 30, 2020	—	4,300	5,255	5	7,539	8	104,232	(107,850)	(3,605)
Stock-based compensation	—	—	—	—	—	—	273	—	273
Net loss	—	—	—	—	—	—	—	(544)	(544)
Balance at September 30, 2020	—	$ 4,300	5,255	$ 5	7,539	$ 8	$ 104,505	$ (108,394)	$ (3,876)

See accompanying notes to the unaudited condensed consolidated financial statements.

International Stem Cell Corporation and Subsidiaries
Condensed Consolidated Statements of Cash Flows
(In thousands)
(Unaudited)

	Nine Months Ended September 30,	
	2021	**2020**
Cash flows from operating activities		
Net loss	$ (548)	$ (2,003)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	195	192
Operating lease expense	215	199
Impairment of intangible assets	250	65
Loss on disposal of property and equipment	4	—
Stock-based compensation	524	1,015
Gain on forgiveness of debt	(1,137)	—
Interest expense on related party note payable	87	78
Change in fair value of warrant liability	—	(167)
Changes in operating assets and liabilities:		
Accounts receivable	(265)	1,006
Inventory, net	(216)	284
Prepaid expenses and other current assets	—	48
Deposits and other assets	17	26
Accounts payable	251	(263)
Accrued liabilities	(104)	(272)
Operating lease liabilities	(254)	(238)
Net cash used in operating activities	(981)	(30)
Cash flows from investing activities		
Purchases of property and equipment	(13)	(24)
Payments for patent licenses	(14)	(58)
Net cash used in investing activities	(27)	(82)
Cash flows from financing activities		
Proceeds from Paycheck Protection Program loans	474	654
Proceeds from note payable from a related party	350	—
Net cash provided by financing activities	824	654
Net increase (decrease) in cash	(184)	542
Cash, beginning of period	689	484
Cash, end of period	$ 505	$ 1,026
Supplemental disclosure of cash flow information:		
Cash paid for interest	$ 5	$ 4
Supplemental disclosure of non-cash investing and financing activities:		
Gain on forgiveness of debt	$ 1,137	$ —
Right-of-use asset obtained in exchange for operating lease liability	$ —	$ 421
Patent license costs included in accrued liabilities	$ 7	$ 6

See accompanying notes to the unaudited condensed consolidated financial statements.

1. Description of Business, Basis of Presentation and Summary of Significant Accounting Policies

Description of Business

International Stem Cell Corporation (the "Company") was organized in Delaware in June 2005 and is publicly traded on the OTCQX under the symbol "ISCO". The Company is primarily a research and development company, for the therapeutic market, which has focused on advancing potential clinical applications of human parthenogenetic stem cells ("hpSCs") for the treatment of various diseases of the central nervous system and liver diseases. The Company has the following wholly-owned subsidiaries:

- Lifeline Cell Technology, LLC ("LCT") – for the biomedical market, develops, manufactures and commercializes primary human cell research products including over 200 human cell culture products, including frozen human "primary" cells and the reagents (called "media") needed to grow, maintain and differentiate the cells;
- Lifeline Skin Care, Inc. ("LSC") – for the anti-aging market, develops, manufactures and markets a category of anti-aging skin care products based on the Company's proprietary parthenogenetic stem cell technology and small molecule technology;
- Cyto Therapeutics Pty. Ltd. ("Cyto Therapeutics") – performs research and development ("R&D") for the therapeutic market and is currently conducting clinical trials in Australia for the use of ISC-hpNSC® in the treatment of Parkinson's disease.

COVID-19 Pandemic

The COVID-19 pandemic has caused business disruptions in the Company's business globally. The Company's condensed consolidated financial statements reflect judgments and estimates that could change in the future as a result of the COVID-19 pandemic. For the nine months ended September 30, 2021, the Company experienced a year-over-year decline in product sales. In response, the Company has reduced its capital spending and, where possible, operating expenses while facilitating ongoing safe and reliable operations. As of the date of this report, the Company expects the COVID-19 pandemic will continue to adversely impact its business, financial condition, liquidity, and future results of operations. The full extent to which the COVID-19 pandemic will impact the Company remains uncertain and ultimately will be dictated by the length and severity of the pandemic, as well as the economic recovery and federal, state and local government actions taken in response. The Company is continuing to monitor the impact of COVID-19 on the Company's operations, workforce, suppliers, customers and industry.

Basis of Presentation

The accompanying unaudited interim condensed consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States of America ("GAAP") and the rules and regulations of the Securities and Exchange Commission ("SEC") applicable to interim financial statements. Certain information and note disclosures normally included in annual financial statements prepared in accordance with GAAP have been condensed or omitted pursuant to those rules and regulations. The unaudited interim condensed consolidated financial statements reflect all adjustments consisting of normal recurring adjustments which, in the opinion of management, are necessary for a fair statement of the Company's financial position and the results of its operations and cash flows for the periods presented. The operating results presented in these unaudited interim condensed consolidated financial statements are not necessarily indicative of the results that may be expected for any future periods. These unaudited interim condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements and the notes thereto for the year ended December 31, 2020 included in the Company's annual report on Form 10-K filed with the SEC on March 30, 2021.

Liquidity and Going Concern

The Company had an accumulated deficit of approximately $109.7 million as of September 30, 2021 and has, on an annual basis, incurred net losses and negative operating cash flows since inception. The Company has had no revenue from research and development of its therapeutic product candidates. Unless the Company obtains additional financing, the Company does not have sufficient cash on hand to sustain operations at least through one year after the issuance date of these condensed consolidated financial statements.

There can be no assurance that the Company will be successful in maintaining normal operating cash flow or obtaining additional funding. These circumstances raise substantial doubt about the Company's ability to continue as a going concern. For the foreseeable

future, the Company's ability to continue its operations is dependent upon its ability to obtain additional financing. The accompanying condensed consolidated financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classifications of liabilities that may result from the outcome of the uncertainty concerning the Company's ability to continue as a going concern.

The Company continues to evaluate various financing sources and options to raise working capital to help fund current research and development programs and operations. The Company will need to obtain significant additional funding from sources, including through debt and/or equity financing, license arrangements, grants and/or collaborative research arrangements to sustain its operations and develop products.

The timing and degree of any future capital requirements will depend on many factors, including:

- the accuracy of the assumptions underlying the estimates for capital needs;
- the extent that revenues from sales of LSC and LCT products cover the related costs and provide capital;
- scientific progress in research and development programs;
- the magnitude and scope of the Company's research and development programs and its ability to establish, enforce and maintain strategic arrangements for research, development, clinical testing, manufacturing and marketing;
- the progress with preclinical development and clinical trials;
- the time and costs involved in obtaining regulatory approvals;
- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims;
- the number and type of product candidates that the Company decides to pursue;
- demand from the Company's largest original equipment manufacturer customers; and
- the development of major public health concerns, including COVID-19 or other pandemics arising globally, and the current and future impact that such concerns may have on the Company's operations and funding requirements.

As a result of the COVID-19 pandemic and actions taken to slow its spread, the global credit and financial markets have experienced volatility and disruptions, including inconsistent liquidity and credit availability, declines in consumer confidence, declines in economic growth, increases in unemployment rates and uncertainty about economic stability. As the pandemic continues and restrictions remain in place or new restrictions are imposed, it may make any additional debt and/or equity financing more difficult, more costly and more dilutive.

In addition, debt financing may be expensive and require the Company to pledge all or a substantial portion of its assets. If additional funds are obtained through arrangements with collaborative partners, these arrangements may require the Company to relinquish rights to some of its technologies, product candidates or products that the Company would otherwise seek to develop and commercialize on its own. Furthermore, if sufficient capital is not available, the Company may be required to delay, reduce the scope of or eliminate one or more of its product initiatives. The Company's failure to raise capital or enter into applicable arrangements when needed would have a negative impact on its financial condition.

Principles of Consolidation and Foreign Currency Transactions

The condensed consolidated financial statements include the accounts of International Stem Cell Corporation and its subsidiaries. All intercompany balances and transactions have been eliminated in consolidation. The functional currency of the Company and its subsidiaries, including its wholly-owned Australian subsidiary, Cyto Therapeutics, is the U.S. dollar. Assets and liabilities that are not denominated in the functional currency are remeasured into U.S. dollars at foreign currency exchange rates in effect at the respective balance sheet dates. Revenue and expenses are translated at the average rate in effect on the date of the transaction. Net realized and unrealized gains and losses from foreign currency transactions and remeasurement are reported in general and administrative expense in the accompanying condensed consolidated statements of operations and were not material for the periods presented.

Use of Estimates

The preparation of condensed consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the accompanying condensed consolidated financial statements. Significant estimates include patent life (remaining legal life versus remaining useful life), inventory carrying values, allowance for

excess and obsolete inventories, allowance for sales returns and doubtful accounts, and the fair value of stock option grants using the Black-Scholes option valuation model. Actual results could differ from those estimates.

Segments

The Company's chief operating decision-maker reviews financial information presented on a consolidated basis, accompanied by disaggregated information by each reportable company's statement of operations. The Company operates the business on the basis of three reporting segments, the parent company and two business units: ISCO – therapeutic market; LCT – biomedical market, and; LSC – anti-aging market.

Inventory

Inventory is accounted for using the average cost and first-in, first-out ("FIFO") methods for LCT cell culture media and reagents, average cost and specific identification methods for LSC products, and specific identification method for other LCT products. Inventory balances are stated at the lower of cost or net realizable value. Laboratory supplies used in the research and development process are expensed as consumed. LCT's inventory has a long product life cycle, does not have a shelf life when frozen, and future demand is uncertain. As such, at each reporting period, the Company estimates its reserve for allowance and obsolescence using historical sales data and inventory turnover rates. The establishment of a reserve for excess and obsolete inventory establishes a new cost basis in the inventory. If the Company is able to sell such inventory, any related reserves would be reduced in the period of sale. The value of the inventory that is not expected to be sold within twelve months of the current reporting period is classified as non-current inventory on the accompanying condensed consolidated balance sheets.

Accounts Receivable

Trade accounts receivable are recorded at the net invoice value and are not interest bearing. Accounts receivable primarily consist of trade accounts receivable from the sales of LCT's products, timing of cash receipts by the Company related to LSC credit card sales to customers, as well as LSC trade receivable amounts related to spa and distributor sales. The Company considers receivables past due based on the contractual payment terms. The Company reviews its exposure to accounts receivable and reserves specific amounts if collectability is no longer reasonably assured. The Company recorded an allowance for doubtful accounts of $3,000 and $12,000 as of September 30, 2021 and December 31, 2020, respectively.

Advances

On June 18, 2008, the Company entered into an agreement with BioTime, Inc. ("BioTime"), whereby BioTime paid an advance of $250,000 to LCT to produce, make, and distribute certain products. The $250,000 advance will be paid down with the first $250,000 of net revenues that otherwise would be allocated to LCT under the agreement. As of September 30, 2021, no revenues were realized and attributable to BioTime under this agreement.

Property and Equipment

Property and equipment are stated at cost. The provision for depreciation and amortization is computed using the straight-line method over the estimated useful lives of the assets, which are generally three to five years. Costs related to leasehold improvements are capitalized and amortized over the shorter of the remaining term of the lease or the estimated life of the asset.

Intangible Assets

Intangible assets consist of acquired patent licenses and capitalized legal fees related to the acquisition, filing, maintenance, and defense of patents and trademarks. Amortization begins once the patent is issued by the appropriate authoritative bodies. In the period in which a patent application is rejected or efforts to pursue the patent are abandoned, all the related accumulated costs are expensed. Patents and other intangible assets are amortized on a straight-line basis over the shorter of the useful life of the underlying patent, which is generally 15 years, or when the intangible asset is rejected or abandoned. All amortization expense related to intangible assets is included in general and administrative expense in the accompanying condensed consolidated statements of operations.

Long-Lived Asset Impairment

The Company reviews long-lived assets for impairment when events or changes in circumstances ("triggering event") indicate that the carrying value of an asset or group of assets may not be recovered. If a triggering event is determined to have occurred, the carrying value of an asset or group of assets is compared to the future undiscounted cash flows expected to be generated by the asset

or group of assets. If the carrying value exceeds the undiscounted cash flows of the asset or group of assets, then impairment exists. Fair value is generally determined using the asset's expected future discounted cash flows or market value, if readily determinable.

Revenue Recognition

Revenue is recognized at an amount that reflects the consideration to which the Company expects to be entitled in exchange for transferring goods or services to a customer. This principle is applied using the following five-step process:

1. Identify the contract with the customer
2. Identify the performance obligations in the contract
3. Determine the transaction price
4. Allocate the transaction price to the performance obligations in the contract
5. Recognize revenue when (or as) each performance obligation is satisfied

The Company recognizes revenue when it satisfies a performance obligation by transferring control of the promised goods or services to its customers, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those goods or services.

The following table presents the Company's revenue disaggregated by segment, product and geography (in thousands):

Biomedical market:

	Three Months Ended September 30, 2021				Nine Months Ended September 30, 2021			
	Domestic	International	Total Revenues	% of Total Revenues	Domestic	International	Total Revenues	% of Total Revenues
Biomedical products								
Cells	$ 191	$ 93	$ 284	19%	$ 542	$ 422	$ 964	22%
Media	1,124	123	1,247	81%	3,036	451	3,487	78%
Total	$ 1,315	$ 216	$ 1,531	100%	$ 3,578	$ 873	$ 4,451	100%

	Three Months Ended September 30, 2020				Nine Months Ended September 30, 2020			
	Domestic	International	Total Revenues	% of Total Revenues	Domestic	International	Total Revenues	% of Total Revenues
Biomedical products								
Cells	$ 221	$ 92	$ 313	27%	$ 696	$ 295	$ 991	22%
Media	750	107	857	73%	3,211	317	3,528	78%
Other	—	—	—	—	16	—	16	—
Total	$ 971	$ 199	$ 1,170	100%	$ 3,923	$ 612	$ 4,535	100%

Anti-aging market:

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2021		2020		2021		2020	
	Total Revenues	% of Total Revenues	Total Revenues	% of Total Revenues	Total Revenues	% of Total Revenues	Total Revenues	% of Total Revenues
Skin care sales channels								
Ecommerce	$ 224	72%	$ 211	68%	$ 635	72%	$ 733	66%
Professional	87	28%	100	32%	247	28%	384	34%
Total	$ 311	100%	$ 311	100%	$ 882	100%	$ 1,117	100%

The Company's revenue consists primarily of sales of products from its two revenue-generating operating segments, the biomedical market and anti-aging market business segments. The biomedical market segment markets and sells primary human cell research products with two product categories, cells and media, which are sold both domestically and internationally. The anti-aging market segment markets and sells a line of skincare products sold through two sales channels: ecommerce and professional. The ecommerce channel sells direct to customers through online orders, while professional sales are primarily to spas, salons and other skincare providers.

Contract terms for unit price, quantity, shipping and payment are governed by sales agreements, invoices or online order forms which the Company considers to be a customer's contract in all cases. The unit price is considered the observable stand-alone selling

price for the performance obligation(s) within the arrangements. Any promotional or volume sales discounts are applied evenly to the units sold for purposes of calculating standalone selling price.

The Company recognizes revenue when its customer obtains control of the promised goods or services, in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. Product sales generally consist of a single performance obligation that the Company satisfies at a point in time (i.e., upon delivery of the product).

For LSC products, ecommerce sales are primarily paid through credit card charges, while professional sales are invoiced. The professional sales and biomedical products' standard payment terms for its customers are generally 30 days after the Company satisfies the performance obligation(s).

The Company elects to account for shipping and handling costs as activities to fulfill the promise to transfer the goods to a customer. As a result, no consideration is allocated to shipping and handling costs. Rather, the Company accrues the cost of shipping and handling upon shipment of the product, and all contract revenue (i.e., the transaction price) is recognized at the same time.

Variable Consideration

The Company records revenue from customers in an amount that reflects the consideration it expects to be entitled to after transferring control of those goods or services to a customer. From time to time, the Company offers sales promotions on its products such as discounts and free product offers. Variable consideration is estimated at contract inception only to the extent that it is probable that a significant reversal of revenue will not occur and is updated at the end of each reporting period as additional information becomes available.

Contract Balances

The Company records a receivable when it has an unconditional right to receive consideration after a performance obligation is satisfied. As of September 30, 2021 and December 31, 2020, accounts receivable, net, totaled $668,000 and $403,000, respectively. During the nine months ended September 30, 2021 and 2020, the Company did not incur material write-offs of its accounts receivable.

Practical Expedients

The Company has elected the practical expedient to not determine whether contacts with customers contain significant financing components. The Company pays commissions on certain sales for its biomedical and anti-aging product markets once the customer payment has been received, which are accrued at the time of the sale. The Company generally expenses sales commissions when incurred because the amortization period would have been one year or less. These costs are recorded within sales and marketing expenses. In addition, the Company has elected to exclude sales taxes consideration from the determined transaction price.

Allowance for Sales Returns

The Company's anti-aging products have a 30-day product return guarantee; however, the Company determined that there is a low probability that returns will occur based on its historical rate of returns. Historically, returns have not been significant and are recognized as a reduction to current period revenue. As of September 30, 2021 and December 31, 2020, the Company recorded no allowance for sales returns.

Cost of Sales

Cost of sales consists primarily of salaries and benefits associated with employee efforts expended directly on the production of the Company's products, as well as related direct materials, general laboratory supplies and an allocation of overhead. Certain of the Company's licensed technology agreements may require the Company to pay royalties based on the future sale of the Company's products. Such royalties will be recorded as a component of cost of sales when incurred. Additionally, milestone payments or the amortization of license fees related to developed technologies used in the Company's products will be included as a component of cost of sales to the extent that such payments become due in the future.

Research and Development Costs

Research and development costs, which are expensed as incurred, primarily consist of salaries and benefits associated with research and development personnel, overhead and occupancy costs, contract services costs and amortization of license costs for

technology used in research and development with alternative future uses, offset by the research and development tax credit provided by the Australian Taxation Office for qualified expenditures.

Stock-Based Compensation

The cost of a stock-based award is measured at the grant date based on the estimated fair value of the award, and is recognized as expense on a straight-line basis, net of forfeitures which are recognized as incurred, over the requisite service period of the award. The fair value of stock options is estimated using the Black-Scholes option valuation model, which requires the input of subjective assumptions, including price volatility of the underlying stock, risk-free interest rate, dividend yield, and expected life of the option. The fair value of restricted stock awards is based on the market value of the Company's common stock on the date of grant.

Fair Value of Financial Instruments

The Company believes that the carrying value of its cash, accounts receivables, accounts payable, accrued liabilities and related party note payable as of September 30, 2021 and December 31, 2020 approximate their fair values because of the short-term nature of those instruments.

Fair Value Measurements

Fair value is defined as an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability. As a basis for considering such assumptions, the accounting guidance establishes a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value as follows:

Level 1: Observable inputs such as quoted prices in active markets.

Level 2: Inputs, other than the quoted prices in active markets that are observable either directly or indirectly.

Level 3: Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

As of September 30, 2021, the Company had no financial assets or liabilities measured at fair value on a recurring basis. As of December 31, 2020, the Company had outstanding a warrant liability which was measured at fair value on a recurring basis. The fair value of the warrant liability was calculated using the Monte-Carlo simulation model, which required the use of certain estimates. As of December 31, 2020, the fair value of the warrant liability was estimated to be zero.

Income Taxes

The Company accounts for income taxes in accordance with applicable authoritative guidance, which requires the Company to provide a net deferred tax asset/liability equal to the expected future tax benefit/expense of temporary reporting differences between book and tax accounting methods and any available operating loss or tax credit carryforwards.

Net Loss Per Share

Basic net loss per share attributable to common stockholders is calculated by dividing the net loss attributable to common stockholders by the weighted-average number of common shares outstanding during the period. Diluted net loss per share attributable to common stockholders is computed by dividing the net loss attributable to common stockholders by the weighted-average number of common stock equivalents outstanding for the period determined using the treasury-stock and if-converted methods. Potentially dilutive common stock equivalents are comprised of stock options, common stock warrants and convertible preferred stock. For the three and nine months ended September 30, 2021 and 2020, there was no difference in the number of shares used to calculate basic and diluted shares outstanding.

For the three and nine months ended September 30, 2021 and 2020, the following common stock options, common stock warrants and convertible preferred stock were not included in the diluted net loss per share calculation because the effect would be anti-dilutive.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Options outstanding	5,451,787	4,711,130	4,742,051	4,729,829
Common stock warrants outstanding	—	3,948,569	—	3,949,521
Redeemable convertible preferred stock	2,457,143	2,457,143	2,457,143	2,457,143
Non-redeemable convertible preferred stock	3,209,835	3,675,135	3,444,130	3,675,135
Total	11,118,765	14,791,977	10,643,324	14,811,628

Comprehensive Loss

Comprehensive loss includes all changes in stockholders' equity except those resulting from investments by owners and distributions to owners. The Company did not have any items of comprehensive loss other than net loss from operations for the three and nine months ended September 30, 2021 and 2020.

Customer Concentrations

During the nine months ended September 30, 2021 and 2020, one customer accounted for approximately 38% and 43%, respectively, of consolidated revenues. As of September 30, 2021 and December 31, 2020, the customer accounted for approximately 48% and 55%, respectively, of accounts receivable, net. No other single customer accounted for more than 10% of revenues for the periods then ended for any segment.

Recently Issued Accounting Pronouncements

In June 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2016-13, *Financial Instruments— Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* ("ASU 2016-13"). The ASU introduced a new credit loss methodology, the Current Expected Credit Losses ("CECL") methodology, which requires earlier recognition of credit losses, while also providing additional transparency about credit risk. The CECL methodology utilizes a lifetime "expected credit loss" measurement objective for the recognition of credit losses for loans, held-to maturity debt securities, trade receivables and other receivables measured at amortized cost at the time the financial asset is originated or acquired. Subsequent to the issuance of ASU 2016-13, the FASB issued several additional ASUs to clarify implementation guidance, provide narrow-scope improvements and provide additional disclosure guidance. In November 2019, the FASB issued an amendment making this ASU effective for fiscal years beginning after December 15, 2022 for smaller reporting companies. The new standard will be effective for the Company on January 1, 2023 or at such earlier time where it is no longer a smaller reporting company. The Company is currently evaluating the potential impact that this standard may have on its consolidated financial statements and related disclosures.

In August 2020, the FASB issued ASU No. 2020-06, *Debt – Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging – Contracts in Entity's Own Equity (Subtopic 815-40)* ("ASU 2020-06"). ASU 2020-06 simplifies the accounting for convertible debt instruments by reducing the number of accounting models and the number of embedded features that could be recognized separately from the host contract. Consequently, more convertible debt instruments will be accounted for as a single liability measured at its amortized cost, as long as no other features require bifurcation and recognition as derivatives. ASU 2020-06 also requires use of the if-converted method in the diluted earnings per share calculation for convertible instruments. ASU 2020-06 is effective for fiscal years beginning after December 15, 2023, and interim periods within those fiscal years for smaller reporting companies, with early adoption permitted. The new standard will be effective for the Company on January 1, 2024 or at such earlier time where it is no longer a smaller reporting company. The Company is currently evaluating the potential impact that this standard may have on its consolidated financial statements and related disclosures.

Recently Adopted Accounting Pronouncements

In December 2019, the FASB issued ASU No. 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes* ("ASU 2019-12"). ASU 2019-12 simplifies the accounting for income taxes by removing certain exceptions to the general principles in Topic 740. ASU 2019-12 also improves the consistent application, and the simplification, of other areas of Topic 740 by clarifying and amending existing guidance. ASU 2019-12 is effective for fiscal years beginning after December 15, 2020, and interim periods within those fiscal years, with early adoption permitted. The Company adopted ASU 2019-12 on January 1, 2021. The adoption of this standard did not have a material impact on the Company's consolidated financial statements or related disclosures.

2. Inventory

The components of inventory are as follows (in thousands):

	September 30, 2021	December 31, 2020
Raw materials	$ 573	$ 427
Work in process	407	481
Finished goods	1,061	991
	2,041	1,899
Less: allowance for inventory excess and obsolescence	(537)	(611)
Total current and non-current inventory, net	$ 1,504	$ 1,288
Inventory, net	$ 1,139	$ 917
Non-current inventory	365	371
Total current and non-current inventory, net	$ 1,504	$ 1,288

During the nine months ended September 30, 2021, the Company disposed of obsolete inventory in the amount of $45,000. The inventory had been fully reserved for and the write-off had no impact on the Company's consolidated statements of operations for the periods presented.

3. Property and Equipment

Property and equipment consist of the following (in thousands):

	September 30, 2021	December 31, 2020
Machinery and equipment	$ 1,661	$ 1,661
Computer equipment and software	243	241
Office equipment	230	230
Leasehold improvements	1,312	1,303
Construction in progress	1	3
	3,447	3,438
Less: accumulated depreciation and amortization	(3,028)	(2,904)
Property and equipment, net	$ 419	$ 534

Depreciation and amortization expense for the three months ended September 30, 2021 and 2020 was $41,000 and $42,000, respectively. Depreciation and amortization expense for the nine months ended September 30, 2021 and 2020 was $124,000.

4. Intangible Assets

Intangible Assets consists of the following (in thousands):

	September 30, 2021	December 31, 2020
Patents	$ 1,270	$ 2,286
Less: accumulated amortization	(383)	(1,099)
	887	1,187
Indefinite life logos and trademarks	75	75
Intangible assets, net	$ 962	$ 1,262

Amortization expense for the three months ended September 30, 2021 and 2020 was $24,000 and $23,000, respectively. Amortization expense for the nine months ended September 30, 2021 and 2020 was $71,000 and $68,000, respectively. Impairment charges for the nine months ended September 30, 2021 and 2020 was $250,000 and $65,000, respectively. The impairment charges, measured on a cost basis, related to abandonment of certain internally generated and licensed intellectual property in the Company's therapeutic market segment that was determined by management to have no future economic benefit.

5. Paycheck Protection Program Loan

In May 2020, the Company received a loan of $654,000 from its lender under the Paycheck Protection Program ("First Draw Loan"). The Paycheck Protection Program ("PPP"), as amended, was established under the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act") and is administered by the U.S. Small Business Administration ("SBA"). The First Draw Loan has a two-year term and bears interest at a rate of 1% per annum. Principal and interest payments are deferred for ten months following the loan forgiveness period, which is defined as the 24-week period following the loan origination date, at which time the loan balance is payable in monthly installments unless the Company applies for, and receives, forgiveness in accordance with the CARES Act and the terms of the loan executed by the Company and its lender. As required by the CARES Act, the Company used the proceeds from the PPP Loan for payroll, healthcare benefits, rent and other qualifying expenses.

In March 2021, the Company received a loan of $474,000 from its lender under the PPP ("Second Draw Loan"). The Second Draw Loan has a five-year term and bears interest at a rate of 1% per annum. Principal and interest payments are deferred until August 2022, at which time the loan balance is payable in monthly installments unless the Company applies for, and receives, forgiveness in accordance with the CARES Act and the terms of the loan executed by the Company and its lender. The Second Draw Loan was used to help fund payroll, healthcare benefits, rent, worker protection costs related to COVID-19, certain supplier costs and other qualifying expenses.

In June 2021, the Company applied for and received forgiveness of its First Draw Loan in whole from the SBA and its lender. The amount of forgiveness totaled $661,000, which consisted of unpaid principal and accrued interest.

In August 2021, the Company applied for and received forgiveness of its Second Draw Loan in whole from the SBA and its lender. The amount of forgiveness totaled $476,000, which consisted of unpaid principal and accrued interest. The Company recorded the forgiveness of the First Draw Loan and Second Draw Loan as a gain in other income (expense), net, on the accompanying condensed consolidated statements of operations.

6. Convertible Preferred Stock and Stockholders' Deficit

Non-Redeemable Convertible Preferred Stock

The Company's Series B, Series G, Series I-1 and Series I-2 non-redeemable convertible preferred stock has been classified as equity on the accompanying condensed consolidated balance sheets.

During the three months ended June 30, 2021, holders of all remaining shares of the Company's Series I-1 preferred stock converted 814 shares of issued and outstanding Series I-1 preferred stock into 465,300 shares of common stock of the Company. On June 25, 2021, the Company filed a Certificate of Elimination for the Series I-1 convertible preferred stock with the Secretary of State of the State of Delaware. The Certificate of Elimination amended the provisions of the Certificate of Incorporation of the Company to eliminate the powers, designations, preferences, privileges and other rights of the Series I-1 preferred stock.

The authorized, issued and outstanding shares of non-redeemable convertible preferred stock as of September 30, 2021 consisted of the following:

	Shares Authorized	Shares Issued and Outstanding	Liquidation Preference	Carrying Value
			(in thousands)	
Series B	5,000,000	250,000	$ 453	$ —
Series G	5,000,000	5,000,000	5,000	5
Series I-2	4,310	4,310	4,310	—
Total	10,004,310	5,254,310	$ 9,763	$ 5

The authorized, issued and outstanding shares of non-redeemable convertible preferred stock as of December 31, 2020 consist of the following:

	Shares Authorized	Shares Issued and Outstanding	Liquidation Preference	Carrying Value
			(in thousands)	
Series B	5,000,000	250,000	$ 441	$ —
Series G	5,000,000	5,000,000	5,000	5
Series I-1	2,000	814	814	—
Series I-2	4,310	4,310	4,310	—
Total	10,006,310	5,255,124	$ 10,565	$ 5

Common Stock

As of September 30, 2021, the Company was authorized to issue 120,000,000 shares of common stock, $0.001 par value per share, and 20,000,000 shares of preferred stock, $0.001 par value per share. The Company has designated 50 shares of Series D redeemable convertible preferred stock and a total of 10,004,310 shares of Series B, Series G and Series I-2 non-redeemable convertible preferred stock.

Common Stock Warrants

In October 2014 and March 2016, the Company issued warrants exercisable for 62,047 and 11,159,995 shares of common stock, respectively, at an exercise price of $1.75 per share to certain placement agents and existing investors in connection with financing arrangements. In April 2020, the common stock warrants issued in October 2014 expired unexercised. The common stock warrants issued in March 2016 expired unexercised in March 2021. As of December 31, 2020, 3,948,569 common stock warrants issued in March 2016 were outstanding.

Equity Incentive Plans

The Company adopted the 2006 Equity Participation Plan (as amended the "2006 Plan"), which provides for the grant of stock options, restricted stock and other equity-based awards. Awards for up to 100,000 shares may be granted to employees, directors and consultants under this Plan. The options granted under the 2006 Plan may be either qualified or non-qualified options. Options may be granted with different vesting terms and expire no later than 10 years from the date of grant. The 2006 Plan expired on November 16, 2016. Options and other equity-based awards granted prior to the expiration of the 2006 Plan will continue in effect until the option or award is exercised or terminates pursuant to its terms. No new awards may be granted under the 2006 Plan following its expiration.

In April 2010, the Company adopted the 2010 Equity Participation Plan, as amended (the "2010 Plan"), which provides for the grant of stock options, restricted stock and other equity-based awards. Awards for up to 9,700,000 shares may be granted to employees, directors and consultants under the 2010 Plan. The options granted under the 2010 Plan may be either qualified or non-qualified options. Options may be granted with different vesting terms and expire no later than 10 years from the date of grant. In June 2020, the Company amended the 2010 Plan to extend the term of the 2010 Plan until March 2030. No other material provisions were amended.

Stock Options

Transactions involving stock options issued to employees, directors and consultants under the 2006 Plan and the 2010 Plan are summarized below. Options issued have a maximum life of 10 years. The following tables summarize the changes in options outstanding and the related exercise prices for the Company's common stock options issued:

	Number of Outstanding Options	Weighted-Average Exercise	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2020	4,255,371	$ 3.41		
Granted	1,761,962	$ 0.39		
Forfeited or canceled	(555,118)	$ 2.12		
Expired	(22,042)	$ 284.00		
Outstanding at September 30, 2021	5,440,173	$ 1.43	7.55	$ 255
Vested and expected to vest at September 30, 2021	5,206,848	$ 1.48	7.45	$ 221
Exercisable at September 30, 2021	3,788,495	$ 1.86	6.67	$ 29

Stock-Based Compensation

The fair value of stock options granted is estimated at the date of grant using the Black-Scholes option valuation model. All options are amortized over the requisite service periods. For the three months ended September 30, 2021 and 2020, no stock options were granted. The weighted-average assumptions used in the Black-Scholes option valuation model to determine the fair value of stock options granted for the nine months ended September 30, 2021 and 2020 were as follows:

	Nine Months Ended September 30,	
	2021	2020
Risk-free interest rate	0.89%	0.37%
Expected stock price volatility	83.85%	88.82%
Expected dividend yield	0%	0%
Expected life of options (in years)	5.67	5.36

Total stock-based compensation expense for the three and nine months ended September 30, 2021 and 2020 was comprised of the following (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Cost of sales	$ 3	$ 21	$ 18	$ 66
Research and development	7	28	38	107
Selling and marketing	5	18	27	60
General and administrative	103	206	441	782
Total	$ 118	$ 273	$ 524	$ 1,015

Unrecognized compensation expense related to stock options as of September 30, 2021 was $433,000, which is expected to be recognized over a weighted-average period of 1.8 years.

Common Stock Reserved for Future Issuance

As of September 30, 2021, the Company had shares of common stock reserved for future issuance as follows:

Options outstanding	5,440,173
Common stock available for issuance under the 2010 Plan	4,094,753
Redeemable convertible preferred stock	2,457,143
Non-redeemable convertible preferred stock	3,209,835
Total	15,201,904

7. Related Party Transactions

In 2011, the Company executed an operating lease for its corporate offices with S Real Estate Holdings LLC. S Real Estate Holdings LLC is owned by Dr. Russell Kern, the Company's Executive Vice President and Chief Scientific Officer and a director and was previously owned by Dr. Andrey Semechkin, the Company's Chief Executive Officer and Co-Chairman of the Board of Directors. The lease agreement was negotiated at arm's length and was reviewed by the Company's outside legal counsel. The terms of the lease were reviewed by a committee of independent directors, and the Company believes that, in total, those terms are at least as favorable to the Company as could be obtained for comparable facilities from an unaffiliated party. In March 2017, the Company signed an amendment to the lease agreement to extend the term of the lease until 2020 and include annual adjustments to the monthly lease payments. In March 2020, the Company entered into an amendment to the lease agreement. The amendment extended the term of the lease for three years (until February 2023) and provided for a 2% increase in monthly rent. For the nine months ended September 30, 2021 and 2020, the Company recorded $129,000 and $127,000, respectively, in rent expense that was related to the facility lease arrangement with related parties.

Between March 6, 2018 and December 17, 2019, to obtain funding for working capital purposes, the Company borrowed a total of $2.3 million from Dr. Semechkin and issued an unsecured, non-convertible promissory note in the principal amount of $2.3 million (the "Note") to Dr. Semechkin. The outstanding principal amount under the Note accrued interest at a rate of 4.5% per annum. The outstanding principal and accrued interest on the Note was due and payable on January 15, 2021 and could be pre-paid without penalty at any time.

On January 15, 2021, the Company and Dr. Semechkin modified the Note to extend the maturity date of the Note to January 15, 2022. No other terms of the Note were modified as a result of the extension.

On March 5, 2021, to obtain additional funding for working capital purposes, the Company further modified the Note and issued an unsecured, non-convertible promissory note (the "New Note") in the amount of $2.650 million to Dr. Semechkin. In exchange, Dr. Semechkin surrendered the Note and provided additional funding in the amount of $350,000 to the Company. The outstanding principal amount under the New Note accrues interest at a rate of 4.5% per annum. The outstanding principal and accrued interest on the New Note is due and payable on January 15, 2022 and may be pre-paid by the Company without penalty at any time.

8. Commitments and Contingencies

Leases

The Company has three operating leases for real estate in California and Maryland:

- Carlsbad, California – corporate offices with a term date of February 2023 and leased from a related party (see also Note 7 –Related Party Transactions);
- Oceanside, California – primary research facility and laboratory space with a term date of December 2021;
- Frederick, Maryland – mixed laboratory and administrative space with a term date of November 2025.

The Company's operating leases for real estate are subject to additional variable charges for common area maintenance and other variable costs, and do not include an option to extend the lease term. Right-of-use assets and lease liabilities are recognized at the lease commencement date based on the present value of future minimum lease payments over the lease term. As of September 30, 2021, total right-of-use assets and operating lease liabilities were approximately $659,000 and $937,000, respectively. All operating lease expense is recognized on a straight-line basis over the lease term. For the three months ended September 30, 2021 and 2020 lease expense totaled $118,000 and $117,000, respectively. For the nine months ended September 30, 2021 and 2020 lease expense totaled $355,000 and $354,000, respectively. As of September 30, 2021, the Company had no finance leases.

Maturities of lease liabilities are as follows (in thousands):

Years ending December 31,	
2021 (remaining three months)	$ 129
2022	394
2023	255
2024	233
2025	240
Thereafter	—
Total minimum lease payments	1,251
Less: imputed interest	(314)
Total future minimum lease payments	937
Less: operating lease liabilities, current	(292)
Operating lease liabilities, net of current portion	$ 645

Licensed Patents

The Company has a minimum annual license fee of $75,000 payable in two installments per year to Astellas Pharma pursuant to the amended UMass IP license agreement.

9. Segments

The Company operates the business on the basis of three reporting segments, the parent company and two business units: ISCO – therapeutic market; LCT – biomedical market; LSC – anti-aging market.

The Company does not measure the performance of its segments on any asset-based metrics. Therefore, segment information is presented only for operating income (loss). Revenues, expenses and operating income (loss) for the three and nine months ended September 30, 2021 and 2020 by market segment were as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Revenues:				
Biomedical market	$ 1,531	$ 1,170	$ 4,451	$ 4,535
Anti-aging market	311	311	882	1,117
Total revenues	1,842	1,481	5,333	5,652
Operating expenses:				
Therapeutic market	958	872	2,516	2,656
Biomedical market	1,159	1,038	3,320	3,760
Anti-aging market	348	369	1,095	1,321
Total operating expenses	2,465	2,279	6,931	7,737
Operating income (loss)				
Therapeutic market	(958)	(872)	(2,516)	(2,656)
Biomedical market	372	132	1,131	775
Anti-aging market	(37)	(58)	(213)	(204)
Total operating loss	$ (623)	$ (798)	$ (1,598)	$ (2,085)

10. Subsequent Events

On October 26, 2021, the Company and S Real Estate Holdings, LLC ("Co-Tenant"), a related party, entered into a lease agreement with Rehco Holdings (the "Lease") for the purpose of establishing a new corporate headquarters that combines the Company's Carlsbad and Oceanside offices, including corporate, R&D, and manufacturing operations. The Lease premises covers approximately 7,260 square feet and will be shared with the Co-Tenant and its affiliated entities. The lease term began on November 1, 2021 and will continue for five years and two months, through December 31, 2026. The Company and Co-Tenant will pay a combined $10,890 per month in base rent, which escalates in a fixed amount over the lease term. In addition to base rent, the Company and Co-Tenant are responsible for certain costs and expenses, including insurance, maintenance costs, taxes and operating expenses.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion of our financial condition and results of operations should be read in conjunction with our unaudited condensed consolidated financial statements and related notes and other financial information included elsewhere herein. This information should also be read in conjunction with our audited historical consolidated financial statements which are included in our Form 10-K for the fiscal year ended December 31, 2020 ("Form 10-K"). The discussion contains forward-looking statements, such as our plans, expectations and intentions (including those related to clinical trials and business and expense trends), that are based upon current expectations and that involve risks and uncertainties. Our actual results may differ significantly from management's expectations. The factors that could affect these forward-looking statements are discussed in the Risk Factors included in our Form 10-K. This discussion should not be construed to imply that the results discussed herein will necessarily continue into the future, or that any expectations expressed herein will necessarily be indicative of actual operating results in the future. Such discussion represents only the best assessment by our management.

Business Overview

We are primarily a research and development company, for the therapeutic market, which has focused on advancing potential clinical applications of human parthenogenetic stem cells ("hpSCs") for the treatment of various diseases of the central nervous system and liver diseases. We have the following wholly-owned subsidiaries:

- Lifeline Cell Technology, LLC ("LCT") – for the biomedical market, develops, manufactures and commercializes primary human cell research products including over 200 human cell culture products, including frozen human "primary" cells and the reagents (called "media") needed to grow, maintain and differentiate the cells;
- Lifeline Skin Care, Inc. ("LSC") – for the anti-aging market, develops, manufactures and markets a category of anti-aging skin care products based on our proprietary parthenogenetic stem cell technology and small molecule technology;
- Cyto Therapeutics Pty. Ltd. ("Cyto Therapeutics") – performs research and development for the therapeutic market and is currently conducting a clinical trial in Australia for the use of ISC-hpNSC® in the treatment of Parkinson's disease.

We generated aggregate product sales revenues from our two commercial businesses of $5.3 million and $5.7 million for the nine months ended September 30, 2021 and 2020, respectively. We have generated no revenues from our principal operations in therapeutic and clinical product development.

Our products are based on multi-decade experience with human cell culture and a proprietary type of pluripotent stem cells, human parthenogenetic stem cells. Our hpSCs are comparable to human embryonic stem cells ("hESCs") in that they have the potential to be differentiated into many different cells in the human body. However, the derivation of hpSCs does not require the use of fertilized eggs or the destruction of viable human embryos and also offers the potential for the creation of immune-matched cells and tissues that are less likely to be rejected following transplantation. Our collection of hpSCs, known as UniStemCell™, currently consists of fifteen stem cell lines. We have facilities and manufacturing protocols that comply with the requirements of Good Manufacturing Practice ("GMP") standards as promulgated in the U.S. Code of Federal Regulations and enforced by the U.S. Food and Drug Administration ("FDA").

We have never been profitable and have incurred net losses on an annual basis since inception. Substantially all of our net losses resulted from costs incurred in connection with our research and development programs and from general and administrative costs associated with our operations. We expect to continue to incur operating losses for at least the foreseeable future. Our net losses may fluctuate significantly from quarter to quarter and year to year.

We do not expect to generate any revenues from sales of any therapeutic products until we successfully complete development and obtain regulatory approval for one or more of our product candidates, which we expect will take a number of years. If we obtain regulatory approval for any of our product candidates, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing and distribution. Accordingly, we will seek to fund our operations through public or private equity or debt financings or other sources, including one or more collaborative arrangements with larger companies to share specified development and commercialization expenses. However, we may be unable to raise additional funds or enter into such other arrangements when needed on favorable terms or at all. Our failure to raise capital or enter into such other arrangements when needed would have a negative effect on our financial condition and ability to develop our product candidates.

COVID-19 Pandemic

The impact of the COVID-19 pandemic has been and will likely continue to be extensive in many aspects of society, which has resulted in and will likely continue to result in significant disruptions to the global economy, as well as businesses and capital markets around the world. Impacts to our business have included a reduction in sales volume primarily from media sales in our biomedical market segment and professional channel sales in our anti-aging market segment, temporary or reduced occupancy of portions of our manufacturing facilities, the availability of certain materials used in our packaging, and disruptions or restrictions on our employee's ability to travel to such manufacturing facilities. We have taken precautionary measures to better ensure the health and safety of our workers, including staggering employees' shifts, implementing remote work practices and isolating at-risk employees.

The scope and duration of these delays and disruptions, and the ultimate impacts of COVID-19 on our operations, are currently unknown. We are continuing to actively monitor the situation and may take further precautionary and preemptive actions as may be required by federal, state or local authorities or that we determine are in the best interests of public health and safety. We cannot predict the effects that such actions, or the impact of COVID-19 on global business operations and economic conditions, may continue to have on our business, strategy, collaborations, or financial and operating results.

Market Opportunity and Growth Strategy

Therapeutic Market – Clinical Applications of hpSCs for Disease Treatments. With respect to therapeutic research and product candidates, we focus on applications where cell and tissue therapy is already proven but where there is an insufficient supply of safe and functional cells or tissue. We believe that the most promising potential clinical applications of our technology are: 1) Parkinson's disease ("PD"); 2) traumatic brain injury ("TBI"); and 3) metabolic/liver diseases. Using our proprietary technologies and know-how, we are creating neural stem cells from hpSCs as a potential treatment of PD, TBI, and stroke, and liver cells from hpSCs that may be able to treat a variety of hepatic and metabolic liver diseases.

Our most advanced project is the neural stem cell program for the treatment of Parkinson's disease. In 2017, we began our Phase I trial of ISC-hpNSC®, human parthenogenetic stem cell-derived neural stem cells for the treatment of Parkinson's disease. This trial involved three groups, each with four patients, with each group receiving an increasing amount of ISC-hpNSC® via intracerebral transplantation. Patients were evaluated for 12 months (active phase of the study) with an additional 5-year observational follow-up period to assess safety.

In June 2021, we issued a press release summarizing initial results of our Phase I trial of ISC-hpNSC®. Based on all data collected in the clinical trial, the safety criteria, as defined in the study, was met. Over the course of our study, we observed a potential dose-dependent response. The % OFF-Time, which is the time during the day when levodopa medication is not performing optimally and PD symptoms return, decreased an average 47% from the baseline at 12 months post transplantation in cohort 2. This trend continued through 24 months where the % OFF time in the second cohort dropped by 55% from the initial reading. The quality of life of the patients as measured by the Parkinson's Disease Quality of Life Score-39 (PDQ-39) Summary Index, improved an average 43% for the second cohort at twelve months post-transplantation. This improved to a 45% better score in cohort 2 at 48 months.

Following the results of our Phase I trial of ISC-hpNSC®, we are evaluating initiating a Phase II trial. Although the Phase I study was conducted in Australia, and therefore not subject to FDA oversight, we anticipate that a significant portion of any future studies will be carried out in the United States.

Biomedical Market – Primary Human Cell Research Products. Our wholly-owned subsidiary Lifeline Cell Technology, LLC develops, manufactures and commercializes over 200 human cell culture products, including frozen human "primary" cells and the reagents (called "media") needed to grow, maintain and differentiate the cells. LCT's scientists have used a technology called basal medium optimization to systematically produce optimized products designed to culture specific human cell types and to elicit specific cellular behaviors. These techniques also produce products that do not contain non-human animal proteins, a feature desirable to the research and therapeutic markets. Each LCT cell product is quality tested for the expression of specific markers (to assure the cells are the correct type), proliferation rate, viability, morphology and absence of pathogens. Each cell system also contains associated donor information and all informed consent requirements are strictly followed. LCT's research products are marketed and sold by its internal sales force, OEM partners and LCT brand distributors in Europe and Asia.

Anti-Aging Market – Skin Care Products. Our wholly-owned subsidiary Lifeline Skin Care, Inc. develops, manufactures and offers for sale anti-aging skin care products based on two core technologies: encapsulated extract derived from hpSC and specially selected targeted small molecules. Products containing stem cell technology include: Defensive Day Serum, Recovery Night Serum, Firming Eye Complex, Neck Firming Complex, Aqueous Gel Serum, Intense Moisture Serum, and the Advanced Aqueous Treatment. Products based on the proprietary targeted small molecule technology include: Collagen Booster (Molecular Renewal Serum), Booster, and Brightening Toner. LSC's products are regulated as cosmetics. LSC's products are sold domestically through ecommerce partners and through the professional channel (including dermatologists, plastic surgeons, medical, day and resort spas).

Results of Operations

Comparison of the Three Months Ended September 30, 2021 and 2020

The following table summarizes our results of operations for the three months ended September 30, 2021 and 2020, together with the dollar and percent change in those items (in thousands):

	Three Months Ended September 30,			
	2021	2020	$ Change	% Change
Product sales	$ 1,842	$ 1,481	$ 361	24%
Cost of sales	814	563	251	45%
As a % of revenues	*44%*	*38%*		
Research and development	165	255	(90)	-35%
Selling and marketing	352	403	(51)	-13%
General and administrative	1,134	1,058	76	7%
Other income (expense), net	458	254	204	80%
Net loss	$ (165)	$ (544)	$ 379	-70%
As a % of revenues	*-9%*	*-37%*		

Product Sales

Product sales revenue for the three months ended September 30, 2021 was $1.8 million, compared to $1.5 million for the three months ended September 30, 2020. The increase of $361,000, or 24%, was primarily attributable to an increase in media product sales in our biomedical market segment of $390,000 for the three months ended September 30, 2021 as compared to 2020.

Our biomedical product sales continue to recover from the impacts of COVID-19 as purchasing activity from our largest original equipment manufacturer customers increases. For 2021, we estimate biomedical product sales will be comparable to the level of sales in 2020.

Our anti-aging market segment includes skin care products that are distributed through various ecommerce and professional channels. The market for our skin care products across our ecommerce and professional channels has become increasingly competitive. As such, anti-aging product sales have remained equal for the three months ended September 30, 2021 as compared to 2020.

Cost of Sales

Cost of sales for the three months ended September 30, 2021 was $814,000, compared to $563,000 for the three months ended September 30, 2020. The increase of $251,000, or 45%, was primarily attributable to a $189,000 increase in costs as a result of an increase in product sales. Profit margins have deteriorated for the three months ended September 30, 2021 as compared to 2020, largely as a result of rising raw materials and labor related costs, and a scarcity of certain materials, principally plastics. In response, we have increased our supply of raw materials on hand and have, where possible, sourced materials from alternative vendors.

Cost of sales consists primarily of salaries and benefits associated with employee efforts expended directly on the production of the Company's products, as well as related direct materials, general laboratory supplies and an allocation of overhead. We aim to continue refining our manufacturing processes and supply chain management to improve the cost of sales as a percentage of revenue for both LCT and LSC.

Research and Development Expenses

Research and development expenses for the three months ended September 30, 2021 was $165,000, compared to $255,000 for the three months ended September 30, 2020. The decrease of $90,000, or 35%, was primarily attributable to a $56,000 decrease in personnel-related costs and stock-based compensation primarily as a result of headcount reductions following the conclusion of the active phase of our Phase 1 clinical study, and a $17,000 decrease in materials, supplies and testing related expenses.

Our research and development efforts are primarily focused on the development of treatments for Parkinson's disease, traumatic brain injury and stroke. These projects are long-term investments that involve developing both new stem cell lines and new differentiation techniques that can provide higher purity populations of functional cells. Research and development expenses are

expensed as incurred and are accounted for on a project-by-project basis. However, much of our research has potential applicability to each of our projects.

Selling and Marketing Expenses

Selling and marketing expenses for the three months ended September 30, 2021 was $352,000, compared to $403,000 for the three months ended September 30, 2020. The decrease of $51,000, or 13%, was primarily attributable to a $41,000 decrease in personnel-related costs, sales commissions and stock-based compensation primarily as a result of headcount reductions, and a $15,000 decrease in marketing and advertising costs, partially offset by a $15,000 increase in consulting fees.

General and Administrative Expenses

General and administrative expenses for the three months ended September 30, 2021 was $1.13 million, compared to $1.06 million for the three months ended September 30, 2020. The increase of $76,000, or 7%, was primarily attributable to an increase in impairment of intangible assets of $184,000, a $23,000 increase in legal fees, and a $14,000 increase in director and officer liability insurance premiums, partially offset by a decrease in personnel-related costs and stock-based compensation of $143,000.

Other Income (Expense), Net

Other income, net, for the three months ended September 30, 2021 was $458,000, compared to other income, net, of $254,000 for the three months ended September 30, 2020. The increase of $204,000, or 80%, was primarily attributable to a gain on the forgiveness of debt of $476,000 related to our second draw loan ("Second Draw Loan") under the U.S. Small Business Administration's Paycheck Protection Program ("PPP"), partially offset by a decrease of $282,000 for the change in the fair value of the warrant liability during the prior year period. The warrants expired unexercised in March 2021 and, as such, no further change in the fair value of the warrant liability will be recognized.

Comparison of the Nine Months Ended September 30, 2021 and 2020

The following table summarizes our results of operations for the nine months ended September 30, 2021 and 2020, together with the dollar and percent change in those items (in thousands):

	Nine Months Ended September 30,			
	2021	2020	$ Change	% Change
Product sales	$ 5,333	$ 5,652	$ (319)	-6%
Cost of sales	2,200	2,138	62	3%
As a % of revenues	*41%*	*38%*		
Research and development	492	758	(266)	-35%
Selling and marketing	1,049	1,347	(298)	-22%
General and administrative	3,190	3,494	(304)	-9%
Other income (expense), net	1,050	82	968	1180%
Net loss	$ (548)	$ (2,003)	$ 1,455	-73%
As a % of revenues	*-10%*	*-35%*		

Product Sales

Product sales revenue for the nine months ended September 30, 2021 was $5.3 million, compared to $5.7 million for the nine months ended September 30, 2020. The decrease of $319,000, or 6%, was primarily attributable to a decrease of $235,000 in product sales in our anti-aging market segment for the nine months ended September 30, 2021 as compared to 2020.

Our anti-aging product sales have experienced a significant decline in customer demand for the nine months ended September 30, 2021, as compared to 2020, as a result of COVID-19's impact on the operations of retail and professional medical offices which began to be adversely impacted largely in the second quarter of 2020.

For 2021, we estimate biomedical product sales will continue to recover and be comparable to the level of sales in 2020. International product sales in our biomedical market have remained strong and for the nine months ended September 30, 2021 have exceeded product sales for the same period prior to the COVID-19 pandemic.

Cost of Sales

Cost of sales for the nine months ended September 30, 2021 was $2.2 million, compared to $2.1 million for the nine months ended September 30, 2020. The increase of $62,000, or 3%, was primarily attributable to a $90,000 increase in unfavorable manufacturing variances and absorption due to reduced customer demand, partially offset by a $45,000 decrease in cost of sales due to a reduction in product sales. Profit margins deteriorated slightly for the nine months ended September 30, 2021 as compared to 2020, as a result of an increase in raw material and labor costs. We may modify or expand certain product promotions and discounts through the end of 2021 as we continue to assess the ongoing impact of COVID-19 on our business which may have an adverse impact on our profit margins.

Research and Development Expenses

Research and development expenses for the nine months ended September 30, 2021 was $492,000, compared to $758,000 for the nine months ended September 30, 2020. The decrease of $266,000, or 35%, was primarily attributable to a $194,000 decrease in personnel-related costs and stock-based compensation primarily as a result of headcount reductions following the conclusion of the active phase of our Phase 1 clinical study, a $49,000 decrease in materials, supplies and testing related expenses, and $47,000 decrease in consulting expenses, partially offset by a $44,000 decrease in our research and development tax credit related to qualifiable expenditures from our research and development activities of our Australian subsidiary, Cyto Therapeutics.

Selling and Marketing Expenses

Selling and marketing expenses for the nine months ended September 30, 2021 was $1.0 million, compared to $1.3 million for the nine months ended September 30, 2020. The decrease of $298,000, or 22%, was primarily attributable to a $150,000 decrease in personnel-related costs, including temporary services, sales commissions and stock-based compensation primarily as a result of headcount reductions, a $54,000 decrease in marketing and advertising costs, a $25,000 decrease in logistics costs, and a $21,000 decrease in marketing samples and materials.

General and Administrative Expenses

General and administrative expenses for the nine months ended September 30, 2021 was $3.2 million, compared to $3.5 million for the nine months ended September 30, 2020. The decrease of $304,000, or 9%, was primarily attributable to a decrease in personnel-related costs and stock-based compensation of $435,000, a $89,000 decrease in consulting costs, and a $27,000 decrease in audit costs, partially offset by a $184,000 increase in impairment of intangible assets, a $42,000 increase in director and officer liability insurance premiums, and a $24,000 increase in human resource costs.

Other Income (Expense), Net

Other income, net, for the nine months ended September 30, 2021 was $1.1 million, compared to other income, net, of $82,000 for the nine months ended September 30, 2020. The increase of $968,000, or 1,180%, was primarily attributable to a gain on the forgiveness of debt of $1.14 million related to our loans under the PPP, partially offset by a decrease of $167,000 for the change in the fair value of the warrant liability during the prior year period. The warrants expired unexercised in March 2021 and, as such, no further change in the fair value of the warrant liability will be recognized.

Liquidity and Capital Resources

As of September 30, 2021, we had an accumulated deficit of approximately $109.7 million and have, on an annual basis, incurred net losses and negative operating cash flows since inception. Substantially all of our operating losses have resulted from the funding of our research and development programs and general and administrative expenses associated with our operations. We incurred net losses of $548,000 and $2.0 million for the nine months ended September 30, 2021 and 2020, respectively. As of September 30, 2021, we had cash of approximately $505,000, compared to $689,000 as of December 31, 2020. Our primary use of cash is to continue to fund our research and development programs and operations.

In May 2020, we received a first draw loan of $654,000 from the PPP ("First Draw Loan") which provided additional liquidity to support our current operations. In March 2021, we received a second draw loan of $474,000 from the PPP ("Second Draw Loan"). In June 2021, we applied for and received forgiveness of unpaid principal and accrued interest from our First Draw Loan in the amount of $661,000. In August 2021, we applied for and received forgiveness of unpaid principal and accrued interest from our Second Draw Loan in the amount of $476,000. As of September 30, 2021, we are not eligible to receive any additional funding, or have any further obligations, related to the PPP.

Cash Flows

Comparison of the Nine Months Ended September 30, 2021 and 2020

The following table provides information regarding our cash flows for the nine months ended September 30, 2021 and 2020 (in thousands):

	Nine Months Ended September 30,	
	2021	2020
Net cash used in operating activities	$ (981)	$ (30)
Net cash used in investing activities	(27)	(82)
Net cash provided by financing activities	824	654
Net increase (decrease) in cash	$ (184)	$ 542

Operating Cash Flows

For the nine months ended September 30, 2021, net cash used in operating activities was $981,000, resulting primarily from our net loss of $548,000 and net changes in operating assets and liabilities of $571,000, partially offset by net non-cash adjustments of $138,000. For the nine months ended September 30, 2020, net cash used in operating activities was $30,000, resulting primarily from our net loss of $2.0 million, offset by non-cash adjustments of stock-based compensation expense of $1.0 million, depreciation and amortization of $192,000 and operating lease expense of $199,000, coupled with net changes in operating assets and liabilities of $555,000.

Investing Cash Flows

Net cash used in investing activities for the nine months ended September 30, 2021 was $27,000, compared to $82,000 for the nine months ended September 30, 2020. The decrease of $55,000 was attributable to a decrease in payments for patent licenses of $44,000 and a decrease in purchases of property and equipment of $11,000 year-over-year.

Financing Cash Flows

Net cash provided by financing activities for the nine months ended September 30, 2021 was $824,000, compared to $654,000 for the nine months ended September 30, 2020. The increase was attributable to proceeds from our Second Draw Loan from the Paycheck Protection Program of $474,000, coupled with proceeds from a note payable from a related party of $350,000, compared to proceeds of $654,000 from our First Draw Loan in the prior year.

Funding Requirements

Management continues to evaluate various financing sources and options to raise working capital to help fund our current research and development programs and operations. We will need to obtain significant additional capital from sources including equity and/or debt financings, license arrangements, grants and/or collaborative research arrangements to sustain our operations and develop products. Unless we obtain additional financing, we do not have sufficient cash on hand to sustain our operations at least through one year after the issuance date. The timing and degree of any future capital requirements will depend on many factors, including:

- the accuracy of the assumptions underlying our estimates for capital needs;
- the extent that revenues from sales of LSC and LCT products cover the related costs and provide capital;
- scientific progress in our research and development programs;
- the magnitude and scope of our research and development programs and our ability to establish, enforce and maintain strategic arrangements for research, development, clinical testing, manufacturing and marketing;
- our progress with preclinical development and clinical trials;
- the time and costs involved in obtaining regulatory approvals;
- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims;
- the number and type of product candidates that we pursue;

- demand from our largest original equipment manufacturer customers; and
- the development of major public health concerns, including COVID-19 or other pandemics arising globally, and the current and future impact that such concerns may have on our operations and funding requirements.

As a result of the COVID-19 pandemic and actions taken to slow its spread, the global credit and financial markets have experienced volatility and disruptions, declines in consumer confidence, declines in economic growth, increases in unemployment rates and uncertainty about economic stability. As the pandemic continues and restrictions remain in place or new restrictions are imposed, it may make any additional debt or equity financing more difficult, more costly and more dilutive. Our failure to raise capital or enter into applicable arrangements when needed would have a negative impact on our financial condition. Additional debt financing may be expensive and require us to pledge all or a substantial portion of its assets. Further, if additional funds are obtained through arrangements with collaborative partners, these arrangements may require us to relinquish rights to some of its technologies, product candidates or products that we would otherwise seek to develop and commercialize on our own. If sufficient capital is not available, we may be required to delay, reduce the scope of or eliminate one or more of our product initiatives.

We currently have no revenue generated from our principal operations in therapeutic and clinical product development through research and development efforts. There can be no assurance that we will be successful in maintaining our normal operating cash flow and obtaining additional funds and that the timing of our capital raising or future financing will result in cash flow sufficient to sustain our operations at least through one year after the issuance date.

Based on the factors above, there is substantial doubt about our ability to continue as a going concern. The condensed consolidated financial statements were prepared assuming that we will continue to operate as a going concern. The condensed consolidated financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classification of liabilities that may result from the outcome of this uncertainty. Management's plans in regard to these matters are focused on managing our cash flow, the proper timing of our capital expenditures, and raising additional capital or financing in the future.

Critical Accounting Policies and Estimates

Our management's discussion and analysis of our financial condition and results of operations are based on our condensed consolidated financial statements, which have been prepared in accordance with generally accepted accounting principles in the United States of America and the rules and regulations of the Securities and Exchange Commission. The preparation of these condensed consolidated financial statements requires us to make judgements and estimates that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the condensed consolidated financial statement, and the reported amounts of revenues, costs and expenses during the reporting periods.

Our estimates are based on our historical experience, known trends and events, and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities and amount of expense recognized that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. We evaluate our estimates and assumptions on an ongoing basis. The effects of material revisions in estimates, if any, will be reflected in the consolidated financial statements prospectively from the date of the change in estimates.

There have been no material changes to our critical accounting policies and estimates during the nine months ended September 30, 2021 from those disclosed in "Part II – Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" included in our Annual Report on Form 10-K.

Recently Issued Accounting Pronouncements

A description of recently issued accounting pronouncements that may potentially impact our financial position and results of operations is disclosed in Note 1 to our condensed consolidated financial statements appearing elsewhere in this Quarterly Report on Form 10-Q.

Contractual Obligations and Commitments

There have been no material changes to our contractual obligations and commitments outside the ordinary course of business during the nine months ended September 30, 2021 from those disclosed in "Part II - Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" included in our Annual Report on Form 10-K.

Off-Balance Sheet Arrangements

As of September 30, 2021, we had no off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of Regulation S-K under the Exchange Act.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

We are a smaller reporting company, as defined by Rule 12b-2 of the Exchange Act, and are not required to provide the information required under this item.

Item 4. Controls and Procedures

Disclosure Controls and Procedures

Evaluation of Disclosure Controls and Procedures

As required by Rule 13a-15(e) and 15d-15(e) under the Exchange Act, the Company, with the participation of management, including our Chief Executive Officer and Principal Financial Officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in such rules) as of the end of the period covered by this report. Based on this evaluation, our Chief Executive Officer and Principal Financial Officer concluded that, at September 30, 2021, our disclosure controls and procedures were effective.

Disclosure controls and procedures are controls and other procedures that are designed to ensure that information required to be disclosed in our reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed in our reports filed under the Exchange Act is accumulated and communicated to our management, including our Chief Executive Officer and Principal Financial Officer, or persons performing similar functions, as appropriate, to allow timely decisions regarding required disclosure.

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.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal controls during the nine months ended September 30, 2021 that materially affected, or are reasonably likely to materially affect, our internal controls over financial reporting.

PART II – OTHER INFORMATION

Item 1. Legal Proceedings

None.

Item 1A. Risk Factors

Except for the risk factor set forth below, which was included in our Quarterly Report on Form 10-Q for the quarter ended June 30, 2021, there have been no material changes to the risk factors disclosed in "Part I – Item 1A. Risk Factors" included in our Annual Report on Form 10-K for the year ended December 31, 2020 filed with the SEC on March 30, 2021.

Many of the key materials in our products and packaging, and manufacturing services for certain of our other products, are obtained from a single or limited number of suppliers. Thus, we are at risk of shortages, price increases, tariffs, changes, delay, or discontinuation of key materials and manufacturing services, which could disrupt and materially and adversely affect our business.

Many of the key materials used to manufacture or package our LCT products come from limited or single sources of supply. In addition, in some cases primarily for our LSC products, we rely only on one manufacturer or a limited number of contract manufacturers to fill and finish, test, and package our products. In general, our contract manufacturers fabricate or procure certain materials and packaging on our behalf, subject to certain approved procedures or supplier lists. We do not have firm commitments from many of these suppliers and manufacturers to provide all materials and services, or to provide them in quantities and on timelines that we may require.

Due to our reliance on the key materials provided by suppliers and services provided by contract manufacturers, we are subject to the risk of shortages and long lead times or other disruptions in the supply of certain materials or services. For example, our ability to ship LCT products has recently been adversely affected by shortages in plastic resin that is used to make the packaging containers for those products. Our ongoing efforts to identify alternative suppliers (for many of the single-sourced or limited-sourced materials used in our products) and alternative contract manufacturers (for the assembly of our LSC products) may not be successful. We are subject to the risk that our suppliers may discontinue or modify the materials they provide to us, or that the materials may cease to be available on commercially reasonable terms, or at all. We have in the past experienced, and may in the future experience, materials shortages or delays or other problems in product assembly, and the availability of these materials or services may be difficult to predict. For example, our suppliers or manufacturers may experience temporary or permanent disruptions in their manufacturing operations due to equipment breakdowns, labor strikes or shortages, natural disasters, the occurrence of a contagious disease or illness, such as COVID-19, component or material shortages, cost increases, acquisitions, insolvency, bankruptcy, business shutdowns, trade restrictions, changes in legal or regulatory requirements, or other similar problems. In particular, the current COVID-19 pandemic has caused disruptions in our supply chain. To the extent COVID-19 pandemic continues and results in continuing restrictions, disruptions in our supply chain may continue and cause shortages of our ability to sell products, which could materially and adversely impact our financial results.

Additionally, various sources of supply-chain risk, including strikes or shutdowns at delivery ports or loss of or damage to our products while they are in transit or storage, intellectual property theft, losses due to tampering, third-party vendor issues with quality or sourcing control, failure by our suppliers to comply with applicable laws and regulation, potential tariffs or other trade restrictions, or other similar problems, could limit or delay the supply of our products or harm our reputation. In the event of a shortage or supply interruption from suppliers or contract manufacturers, we may not be able to develop alternate sources quickly, cost-effectively, or at all. Any interruption or delay in material supply or manufacturing, any increases in material or manufacturing costs, or the inability to obtain these materials or services from alternate sources at acceptable prices and within a reasonable amount of time, would harm our ability to provide our products on a timely basis. This could materially and adversely affect our business.

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

Exhibit Index

Exhibit	Description
3.1	Certificate of Incorporation (incorporated by reference to Exhibit 3.4 of the Registrant's Form 10-SB filed on April 4, 2006).
3.2	Certificate of Amendment of Certificate of Incorporation (incorporated by reference to Exhibit 3.1 of the Registrant's Preliminary Information Statement on Form 14C filed on December 29, 2006).
3.3	Certificate of Amendment of Certificate of Incorporation (incorporated by reference to Exhibit 3.1 of the Registrant's Form 8-K filed on June 4, 2012).
3.4	Certificate of Amendment of Certificate of Incorporation (incorporated by reference to Exhibit 3.1 of the Registrant's Form 8-K filed on May 14, 2014).
3.5	Certificate of Amendment of Certificate of Incorporation (incorporated by reference to Exhibit 3.1 of the Registrant's Form 8-K filed on July 28, 2015).
3.6	Certificate of Amendment of Certificate of Incorporation (incorporated by reference to Exhibit 3.1 of the Registrant's Form 8-K filed on May 19, 2016).
3.7	Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.1 of the Registrant's Form 8-K filed on May 6, 2011).
4.1	Form of Specimen Common Stock Certificate (incorporated by reference to Exhibit 4.1 of the Registrant's Form 10-KSB filed on April 9, 2007).
4.2	Certification of Designation of Series B Preferred Stock (incorporated by reference to Exhibit 4.1 of the Registrant's Form 8-K filed on May 12, 2008).
4.3	Certification of Designation of Series D Preferred Stock (incorporated by reference to Exhibit 10.2 of the Registrant's Form 8-K filed on January 5, 2009).
4.4	Certificate of Designation of Series G Preferred Stock (incorporated by reference to Exhibit 3.1 of the Registrant's Form 8-K filed on March 14, 2012).
4.5	Certificate of Preferences, Rights and Limitations of Series I-2 Convertible Preferred Stock (incorporated by reference to Exhibit 3.2 of the Registrant's Form 8-K filed on March 10, 2016).
31.1*	Rule 13a-14(a)/15d-14(a) Certification of Chief Executive Officer.
31.2*	Rule 13a-14(a)/15d-14(a) Certification of Chief Financial Officer.
32.1*	Section 1350 Certification of Chief Executive Officer.
32.2*	Section 1350 Certification of Chief Financial Officer.
101.INS*	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH*	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104*	Cover Page Interactive Data File (embedded within the Inline XBRL document)

* Filed herewith.

SIGNATURES

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

INTERNATIONAL STEM CELL CORPORATION

Dated: November 12, 2021

By: /s/ ANDREY SEMECHKIN
Name: Andrey Semechkin
Title: Chief Executive Officer
(Principal Executive Officer)

By: /s/ SOPHIA GARNETTE
Name: Sophia Garnette
Title: Vice President, Legal Affairs and Operations
(Principal Financial Officer)

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER

I, Andrey Semechkin, Chief Executive Officer of International Stem Cell Corporation, certify that:

1. I have reviewed this quarterly report on Form 10-Q of International Stem Cell 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(s) 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 (the registrant's fourth fiscal quarter in the case of an annual report) 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(s) 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.

Date: November 12, 2021

By: /s/ Andrey Semechkin
Andrey Semechkin
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER

I, Sophia Garnette, Vice President, Legal Affairs and Operations of International Stem Cell Corporation, certify that:

1. I have reviewed this quarterly report on Form 10-Q of International Stem Cell 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(s) 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 (the registrant's fourth fiscal quarter in the case of an annual report) 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(s) 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.

Date: November 12, 2021

By: /s/ Sophia Garnette
Sophia Garnette
Vice President, Legal Affairs and Operations
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of International Stem Cell Corporation (the "Company") for the quarter ended September 30, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Andrey Semechkin, Chief Executive Officer of the Company, hereby certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) the Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 12, 2021

By: /s/ Andrey Semechkin
Andrey Semechkin
Chief Executive Officer
(Principal Executive Officer)

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of International Stem Cell Corporation (the "Company") for the quarter ended September 30, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Sophia Garnette, Vice President, Legal Affairs and Operations of the Company, hereby certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) the Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 12, 2021

By: /s/ Sophia Garnette
Sophia Garnette
Vice President, Legal Affairs and Operations
(Principal Financial Officer)