Filed Pursuant to Rule 424(b)(3)
Registration No. 333-269564

Prospectus Supplement No. 2
(To Prospectus dated March 30, 2023)

Comera Life Sciences Holdings, Inc.

7,218,726 Shares of Common Stock

This prospectus supplement no. 2 (this "Prospectus Supplement") updates, amends and supplements the prospectus dated March 30, 2023 (as amended or supplemented from time to time, the "Prospectus") which forms a part of the Registration Statement on Form S-1 (Registration Statement No. 333-269564) filed by Comera Life Sciences Holdings, Inc. ("Holdco"). Capitalized terms used in this Prospectus Supplement and not otherwise defined herein have the meanings specified in the Prospectus.

This Prospectus Supplement is being filed to update, amend and supplement the information included or incorporated by reference in the Prospectus with the information contained in our Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission (the "SEC") on May 12, 2023 (the "Quarterly Report"). Accordingly, we have attached the Quarterly Report to this Prospectus Supplement. This Prospectus Supplement is being re-filed due to a technical error that caused the Quarterly Report to be omitted as an attachment to the prospectus supplement filing on May 12, 2023.

This Prospectus Supplement is not complete without, and may not be delivered or utilized except in combination with, the Prospectus, including any amendments or supplements thereto. This Prospectus Supplement should be read in conjunction with the Prospectus and any amendments or supplements thereto. If there is any inconsistency between the information in the Prospectus and this Prospectus Supplement, you should rely on the information in this Prospectus Supplement.

The Holdco Common Stock is listed on The Nasdaq Capital Market ("Nasdaq") under the symbol "CMRA", and the Holdco Warrants are listed on Nasdaq under the symbol "CMRAW". On May 11, 2023, the closing sale price of the Holdco Common Stock as reported on Nasdaq was $0.7299 per share, and the closing sale price of the Holdco Warrants as reported on Nasdaq was $0.0312 per warrant.

Investing in our securities is highly speculative and involves a high degree of risk. Before buying any securities, you should review carefully the risks and uncertainties of investing in our securities described in the section titled "Risk Factors" beginning on page 14 of the Prospectus, and under similar headings in any amendments or supplements thereto.

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

The date of this Prospectus Supplement is May 12, 2023

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended March 31, 2023

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: 1-41403

Comera Life Sciences Holdings, Inc.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**87-4706968**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
12 Gill Street Suite 4650 Woburn, Massachusetts	**01801**
(Address of principal executive offices)	**(Zip Code)**

(617) 871-2101
(Registrant's telephone number, including area code)
Not Applicable
(Former name, former address and former fiscal year, if changed since last report)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock	**CMRA**	**The Nasdaq Stock Market LLC**
Warrants	**CMRAW**	**The Nasdaq Stock Market LLC**

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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	☒	Smaller reporting company	☒
		Emerging growth company	☒

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

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

As of May 11, 2023, the registrant had 22,305,138 shares of common stock, $0.0001 par value per share, outstanding.

Table of Contents

Item 1. Financial Statements.

COMERA LIFE SCIENCES HOLDINGS, INC.
CONSOLIDATED BALANCE SHEETS
(unaudited)

	March 31, 2023	December 31, 2022
Assets		
Current assets:		
Cash and cash equivalents	$ 1,538,653	$ 446,607
Restricted cash - current	—	1,505,625
Accounts receivable	—	34,320
Deferred issuance costs	—	90,047
Prepaid expenses and other current assets	868,784	986,499
Total current assets	2,407,437	3,063,098
Restricted cash - non-current	50,000	50,000
Property and equipment, net	234,576	257,186
Right-of-use asset	263,904	313,629
Security deposit	43,200	43,200
Total assets	$ 2,999,117	$ 3,727,113
Liabilities, Convertible Preferred Stock and Stockholders' Deficit		
Current liabilities:		
Accounts payable	$ 1,772,187	$ 1,458,267
Accrued expenses and other current liabilities	1,365,334	1,295,764
Insurance premium financing	—	455,562
Deposit liability	—	1,505,625
Deferred revenue	—	144,280
Lease liability - current	217,500	199,184
Total current liabilities	3,355,021	5,058,682
Derivative warrant liabilities	250,745	277,507
Lease liability - noncurrent	53,669	120,302
Total liabilities	3,659,435	5,456,491
Commitments and contingencies (Note 15)		
Preferred stock, $0.0001 par value; 1,000,000 shares authorized; 4,305 shares designated Series A convertible preferred stock; 4,305 shares issued and outstanding at March 31, 2023 and December 31, 2022	4,604,526	4,517,710
Stockholders' equity (deficit):		
Common stock, $0.0001 par value; 150,000,000 shares authorized; 19,152,693 and 16,709,221 shares issued and outstanding at March 31, 2023 and December 31, 2022, respectively	1,915	1,671
Additional paid-in capital	32,118,476	28,655,164
Accumulated deficit	(37,385,235)	(34,903,923)
Total stockholders' deficit	(5,264,844)	(6,247,088)
Total liabilities, convertible preferred stock and stockholders' deficit	$ 2,999,117	$ 3,727,113

The accompanying notes are an integral part of these condensed consolidated financial statements.

COMERA LIFE SCIENCES HOLDINGS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(unaudited)

	Three Months Ended March 31,	
	2023	**2022**
Revenue	$ 392,915	$ 95,334
Cost of revenue	116,519	44,524
Operating expenses:		
Research and development	343,705	487,217
General and administrative	2,433,147	2,016,245
Total operating expenses	2,776,852	2,503,462
Loss from operations	(2,500,456)	(2,452,652)
Other income (expense), net:		
Change in fair value of derivative warrant liabilities	26,762	—
Interest expense	(7,618)	(77)
Other expense, net	—	(426,666)
Total other income (expense), net	19,144	(426,743)
Net loss and comprehensive loss	(2,481,312)	(2,879,395)
Less: accretion of convertible preferred stock to redemption value	(86,816)	—
Net loss attributable to common stockholders	$ (2,568,128)	$ (2,879,395)
Net loss per share attributable to common stockholders — basic and diluted	$ (0.13)	$ (4.01)
Weighted-average number of common shares used in computing net loss per share attributable to common stockholders — basic and diluted	19,033,436	718,419

The accompanying notes are an integral part of these condensed consolidated financial statements.

COMERA LIFE SCIENCES HOLDINGS, INC.
CONSOLIDATED STATEMENTS OF CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT
(unaudited)

	Series A Convertible Preferred Stock		Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount	Shares	Amount			
Balance as of December 31, 2022	4,305	$ 4,517,710	—	$ —	16,709,221	$ 1,671	$ 28,655,164	$ (34,903,923)	$ (6,247,088)
Issuance of common stock in connection with the January 2023 PIPE, net of issuance costs					2,406,242	240	3,200,209		3,200,449
Issuance of common stock in connection with the Arena purchase agreement	—	—	—	—	37,230	4	49,154	—	49,158
Accretion of convertible preferred stock to redemption value	—	86,816	—	—	—	—	(86,816)	—	(86,816)
Stock-based compensation expense	—	—	—	—	—	—	300,765	—	300,765
Net loss	—	—	—	—	—	—	—	(2,481,312)	(2,481,312)
Balance as of March 31, 2023	4,305	$ 4,604,526	—	$ -	19,152,693	$ 1,915	$ 32,118,476	$ (37,385,235)	$ (5,264,844)

	Series A Convertible Preferred Stock		Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount	Shares	Amount			
Balance as of December 31, 2021	—	$ —	13,802,758	$ 20,857,453	308,443	$ 31	$ 2,213,547	$ (16,899,825)	$ (14,686,247)
Issuance of common stock upon exercise of stock options	—	—	—	—	735,859	74	429,356	—	429,430
Stock-based compensation expense	—	—	—	—	—	—	42,556	—	42,556
Net loss	—	—	—	—	—	—	—	(2,879,395)	(2,879,395)
Balance as of March 31, 2022	—	$ —	13,802,758	$ 20,857,453	1,044,302	$ 105	$ 2,685,459	$ (19,779,220)	$ (17,093,656)

The accompanying notes are an integral part of these condensed consolidated financial statements.

COMERA LIFE SCIENCES HOLDINGS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited)

	Three Months Ended March 31,	
	2023	**2022**
Cash flows from operating activities:		
Net loss	$ (2,481,312)	$ (2,879,395)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation expense	300,765	42,556
Depreciation expense	28,260	24,774
Noncash lease expense	1,408	(268)
Change in fair value of derivative warrant liabilities	(26,762)	—
Changes in operating assets and liabilities:		
Accounts receivable	34,320	(148,000)
Prepaid expenses and other current assets	117,715	220,676
Due from related parties	—	121
Accounts payable	126,423	123,024
Accrued expenses and other current liabilities	137,695	(300,767)
Deferred revenue	(144,280)	47,727
Net cash used in operating activities	(1,905,768)	(2,869,552)
Cash flows from investing activities:		
Purchases of property and equipment	(88,359)	—
Net cash flows used in investing activities	(88,359)	—
Cash flows from financing activities:		
Deferred offering costs paid in cash	—	(206,917)
Proceeds from January 2023 PIPE, net of issuance costs	1,986,952	—
Proceeds from the Arena Purchase Agreement	49,158	—
Repayment of insurance premium financing	(455,562)	—
Proceeds from exercise of stock options	—	429,430
Net cash provided by financing activities	1,580,548	222,513
Net decrease in cash, cash equivalents and restricted cash	(413,579)	(2,647,039)
Cash, cash equivalents and restricted cash at beginning of period	2,002,232	6,560,140
Cash, cash equivalents, and restricted cash at end of period	$ 1,588,653	$ 3,913,101
Supplemental information:		
Cash and cash equivalents	$ 1,538,653	$ 3,863,101
Restricted cash	50,000	50,000
Total cash, cash equivalents, and restricted cash shown in statements of cash flows	$ 1,588,653	$ 3,913,101
Supplemental disclosure of noncash investing and financing activities:		
Fixed asset additions in accounts payable	$ 5,650	$ —
Stock issuance costs in accounts payable and accrued expenses and other current liabilities	$ 360,253	$ 109,738
Issuance of common stock in exchange for services by the Company's Board of Directors	$ 68,125	$ —
Accretion on convertible preferred stock	$ 86,816	$ —

The accompanying notes are an integral part of these condensed consolidated financial statements.

1. Organization

Formation and Organization

Comera Life Sciences Holdings, Inc. ("CLS Holdings," "Comera" or the "Company") was incorporated in Delaware on January 25, 2022 as a wholly-owned subsidiary of Comera Life Sciences, Inc. ("Legacy Comera") for the purpose of effecting the Transaction (as defined below).

Legacy Comera was formed in the state of Delaware on January 2, 2014 as ReForm Biologics, LLC. On April 30, 2021, Legacy Comera completed a corporate reorganization (the "Reorganization") and changed its name to ReForm Biologics, Inc. As part of the Reorganization, each issued and outstanding capital unit of Legacy Comera as of the date of the Reorganization was exchanged for shares of convertible preferred stock of Legacy Comera and previously outstanding incentive units of Legacy Comera were cancelled. On January 7, 2022, Legacy Comera changed its name to Comera Life Sciences, Inc. to emphasize Comera's vision of a compassionate new era in medicine. On May 19, 2022, in connection with the closing of the Transaction, Legacy Comera became a wholly-owned subsidiary of CLS Holdings.

Comera is a biotechnology company dedicated to promoting a compassionate new era in medicine. The Company applies a deep knowledge of formulation science and technology to transform essential biologic medicines from intravenous ("IV") to subcutaneous ("SQ") forms. This revolutionary technology provides patients and families with the freedom of self-injectable care, allowing them to realize the potential of these life changing therapies, and to unlock the vast potential of their own lives. To accomplish this, Comera is developing an internal portfolio of proprietary therapeutics that incorporate Comera's innovative proprietary formulation platform, SQore™. Comera also collaborates with pharmaceutical and biotechnology companies, applying the SQore™ platform to Comera's partners' biologic medicines to deliver enhanced formulations that facilitate self-injectable care.

Transaction

On May 19, 2022 (the "Closing Date"), the Company consummated the acquisition of all of the issued and outstanding shares of OTR Acquisition Corp. ("OTR") and Legacy Comera (the "Transaction"), in accordance with the Business Combination Agreement dated January 31, 2022 (as amended on May 19, 2022, the "Business Combination Agreement") by and among the Company, Legacy Comera, OTR, CLS Sub Merger 1 Corp., a Delaware corporation, ("Comera Merger Sub"), and CLS Sub Merger 2 Corp., a Delaware corporation ("OTR Merger Sub"). Pursuant to the terms of the Business Combination Agreement, a transaction between OTR and Legacy Comera was effected through the merger of Comera Merger Sub with and into Legacy Comera, with Legacy Comera surviving the merger as a wholly-owned subsidiary of CLS Holdings, and through a merger of OTR Merger Sub with and into OTR, with OTR surviving the merger as a wholly-owned subsidiary of CLS Holdings. OTR was formed in the state of Delaware for the purpose of effecting a merger, share exchange, asset acquisition, stock purchase, recapitalization, reorganization or other similar business combination with one or more businesses or entities.

The Transaction was accounted for as a reverse recapitalization because Legacy Comera has been determined to be the accounting acquirer. Under the reverse recapitalization model, the Transaction treated Legacy Comera as issuing equity for the net assets of OTR, with no goodwill or intangible assets recorded.

2. Basis of Presentation and Significant Accounting Policies

Basis of Presentation

The accompanying condensed consolidated financial statements have been prepared pursuant to the rules and regulations of the Securities and Exchange Commission (the "SEC") and in conformity with accounting principles generally accepted in the United States of America ("GAAP"). Any reference in these notes to applicable guidance is meant to refer to the authoritative United States generally accepted accounting principles as found in the Accounting Standards Codification ("ASC") and Accounting Standards Updates ("ASU") of the Financial Accounting Standards Board ("FASB").

The condensed consolidated financial statements do not include all the information and footnotes required by GAAP for complete financial statements and should be read in conjunction with the Company's consolidated financial statements and related notes for the years ended December 31, 2022 and 2021 included in the Form 10-K filed with the SEC on March 17, 2023 (the "2022 Annual Report").

The financial information as of March 31, 2023, and for the three months ended March 31, 2023 and 2022, is unaudited. In the opinion of management, all adjustments, consisting only of normal recurring adjustments considered necessary for the fair presentation of financial position, results of operations, and cash flows at the dates and for the periods presented, have been included. The balance sheet data as of December 31, 2022 was derived from audited consolidated financial statements. The results of the Company's operations for any interim periods are not necessarily indicative of the results that may be expected for any other interim period or for a full fiscal year.

Risks and Uncertainties

The Company is subject to risks and uncertainties common to early-stage companies in the biotechnology industry, including but not limited to, risks associated with completing preclinical studies and clinical trials, receiving regulatory approvals for product candidates, development by competitors of new biopharmaceutical products, dependence on key personnel, protection of proprietary technology, compliance with government regulations and the ability to secure additional capital to fund operations. Significant discovery, research and development efforts, including clinical testing and regulatory approval, are required prior to commercialization of any potential product candidates. These efforts require significant amounts of additional capital, adequate personnel and infrastructure and extensive compliance-reporting capabilities. Even if the Company's product development efforts are successful, it is uncertain when, if ever, the Company will realize revenue from product sales.

Through March 31, 2023, the Company has funded its operations primarily with proceeds from the issuance of equity instruments and convertible notes. The Company has incurred recurring losses since its inception, including a net loss of $2.5 million and $2.9 million for the three months ended March 31, 2023 and 2022, respectively. In addition, as of March 31, 2023, the Company had an accumulated deficit of $37.4 million. The Company expects to continue to generate operating losses for the near future. The future viability of the Company is dependent on its ability to raise additional capital to finance its operations. The Company's inability to raise capital as and when needed could have a negative impact on its financial condition and ability to pursue its business strategies. There can be no assurance that the current operating plan will be achieved or that additional funding will be available on terms acceptable to the Company, or at all.

The Company does not believe the cash, cash equivalents, and restricted cash on hand as of March 31, 2023 of $1.6 million will be sufficient to fund its operations and capital expenditure requirements for the next twelve months from the date the condensed consolidated financial statements are issued. The Company will be required to raise additional capital to continue to fund its operations. Such funding may not be available on acceptable terms, or at all. If the Company is unable to access additional funds when needed, it may not be able to continue operations or the Company may be required to delay, scale back or eliminate some or all of its ongoing research and development efforts and other operations. The Company's ability to access capital when needed is not assured and, if not achieved on a timely basis, will materially harm its business, financial condition and results of operations. These uncertainties create substantial doubt about the Company's ability to continue as a going concern. The accompanying condensed consolidated financial statements have been prepared on a basis which assumes that the Company will continue as a going concern, which contemplates the realization of assets and the satisfaction of liabilities and commitments in the normal course of business.

Use of Estimates

The preparation of financial statements in accordance with GAAP requires management to make estimates and assumptions, based on judgments considered reasonable, which affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting periods. The Company bases its estimates and assumptions on historical experience, known trends and events and various other factors that management believes to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Significant estimates and assumptions reflected in these condensed consolidated financial statements include, but are not limited to, the valuation of derivative warrant liabilities, valuation of earn-out shares, and revenue recognition. Changes in estimates are recorded in the period in which they become known. Due to the risks and uncertainties involved in the Company's business and evolving market conditions and, given the subjective element of the estimates and assumptions made, actual results may differ from estimated results.

Summary of Significant Accounting Policies

The significant accounting policies of the Company are set forth in Note 2, *Basis of Presentation and Significant Accounting Policies*, of the consolidated financial statements included in the 2022 Annual Report. During the three months ended March 31, 2023, the Company did not make any changes to its significant accounting policies.

Recently Issued Accounting Pronouncements

From time to time, new accounting pronouncements are issued by the FASB or other standard setting bodies and adopted by us as of the specified effective date. Unless otherwise discussed, the Company believes that the impact of recently issued standards that are not yet effective will not have a material impact on the Company's consolidated financial statements and disclosures.

3. Fair Value of Financial Assets and Liabilities

The following table presents the Company's fair value hierarchy for its liabilities, which are measured at fair value on a recurring basis as of March 31, 2023:

	Fair Value Measurements at March 31, 2023 Using:			
	Level 1	Level 2	Level 3	Total
Liabilities:				
Derivative warrant liabilities	$ —	$ 250,745	$ —	$ 250,745

	Fair Value Measurements at December 31, 2022 Using:			
	Level 1	Level 2	Level 3	Total
Liabilities:				
Derivative warrant liabilities	$ —	$ 277,507	$ —	$ 277,507

There were no assets for which fair value was required to be disclosed as of March 31, 2023 or December 31, 2022. During the three months ended March 31, 2023, there were no transfers between Level 1, Level 2 and Level 3.

4. Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consisted of the following:

	March 31, 2023	December 31, 2022
Prepaid insurance	$ 535,098	$ 913,611
Contract assets	248,635	—
Other	85,051	72,888
Prepaid expenses and other current assets	$ 868,784	$ 986,499

5. Property and Equipment, Net

Property and equipment, net consisted of the following:

	March 31, 2023	December 31, 2022
Lab equipment	$ 676,010	$ 587,650
Leasehold improvements	36,149	36,149
Computer equipment	35,002	32,178
Other equipment	9,411	9,411
Construction in progress	2,825	88,359
	759,397	753,747
Less accumulated depreciation	(524,821)	(496,561)
Property and equipment, net	$ 234,576	$ 257,186

Depreciation expense for the three months ended March 31, 2023 and 2022 was $28 thousand and $25 thousand, respectively.

6. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consisted of the following:

	March 31, 2023	December 31, 2022
Accrued bonus	$ 882,485	$ 767,093
Professional fees	274,766	282,454
Accrued vacation	30,814	21,194
Other	177,269	225,023
Accrued expenses and other current liabilities	$ 1,365,334	$ 1,295,764

7. Insurance Premium Financing

In May 2022, the Company entered into a finance agreement with First Insurance Funding in order to fund a portion of its insurance policies. The amount financed was $1.5 million and incurred interest at a rate of 4.00%. The Company was required to make monthly payments of $154 thousand through March 2023. There is no outstanding balance as of March 31, 2023.

8. Convertible Preferred Stock

As of March 31, 2023, the Company's amended and restated certificate of incorporation (the "Articles") provides for a class of authorized stock known as preferred stock, consisting of 1,000,000 shares, $0.0001 par value per share, issuable from time to time in one or more series. In connection with the Transaction, a certificate of designation was filed to designate and authorize the issuance of up to 4,305 shares of Series A Convertible Preferred Stock, par value $0.0001 per share ("Series A Preferred Stock").

Convertible preferred stock consisted of the following as of March 31, 2023:

	Par Value	Shares Authorized	Shares Issued and Outstanding	Carrying Value	Liquidation Preference	Common Stock Issuable Upon Conversion
Series A Preferred Stock	$ 0.0001	4,305	4,305	$ 4,604,526	$ 4,604,526	342,754

In May 2022, the Company issued 4,305 shares of Series A Preferred Stock. The Series A Preferred Stock was issued in connection with the Transaction and the Settlement and Release Agreement ("Settlement Agreement") in settlement of $4.3 million of advisory fees owed to Maxim Group LLC ("Maxim") with an original purchase price of $1,000 per share (the "Series A Original Purchase Price"). The Company incurred $162 thousand of issuance costs in connection with the Series A Preferred Stock.

The holders of Series A Preferred Stock shall be entitled to receive, prior and in preference to the declaration or payment of any dividend on any other currently-outstanding capital stock, dividends when, as and if declared by the board of directors, payable quarterly on January 1, April 1, July 1 and October 1 of each calendar year (each date a "Series A Quarterly Dividend Payment Date"), commencing on and including July 1, 2022, which dividends shall be paid in cash at a rate of 8.0% per annum on the Series A Original Purchase Price for the first six Series A Quarterly Dividend Payment Dates, which shall increase by 2% per annum from and after each successive Series A Quarterly Dividend Payment Date, up to a maximum of 18%. Such dividends shall cumulate quarterly at the Series A Dividend Rate if not declared and paid on a Series A Quarterly Dividend Payment Date. As of March 31, 2023, no cash dividends have been declared or paid and the Company has $300 thousand of cumulative dividends in arrears.

As the preferred stock is considered to be contingently redeemable, the preferred stock has been classified outside of permanent equity. Since the contingent redemption is considered probable, the Series A Preferred Stock will be accreted to its redemption value at each reporting date. The Company recorded accretion of $87 thousand during the three months ended March 31, 2023, which is considered a deemed dividend.

9. Common Stock

As of March 31, 2023, the authorized capital stock of the Company included 150,000,000 shares of common stock, $0.0001 par value per share. The voting, dividend and liquidation rights of the holders of the Company's common stock are subject to and qualified by the rights, powers and preferences of the holders of the Series A Preferred Stock.

Each share of common stock entitles the holder to one vote, together with the holders of the preferred stock on an as converted to common stock basis, on all matters submitted to the stockholders for a vote. Common stockholders are entitled to receive dividends, as may be declared by the board of directors, if any, subject to the preferential dividend rights of the preferred stock. Through March 31, 2023, no cash dividends have been declared or paid.

As of March 31, 2023, the Company has reserved the following shares of common stock for future issuance:

Exercise of outstanding stock options	2,516,734
Available for issuance under equity compensation plans	487,473
Exercise of outstanding common stock warrants	15,853,816
Conversion of Series A Preferred Stock	1,028,262
Reserved for issuance pursuant to the Arena Purchase Agreement	4,204,644
Total shares of authorized common stock reserved for future issuance	24,090,929

January 2023 PIPE

On January 2, 2023, the Company entered into a securities purchase agreement (the "Securities Purchase Agreement") with a select group of existing shareholders and members of the Company's board of directors (the "Purchasers"), pursuant to which the Company agreed to issue and sell to the Purchasers in a private placement (the "January 2023 PIPE") an aggregate of 2,406,242 units (collectively, the "Units"), each Unit consisting of (i) one share of common stock, and (ii) one warrant (the "January 2023 PIPE Warrants") to purchase two shares of common stock (the "Warrant Shares") at an exercise price of $1.23 per Warrant Share, for an aggregate purchase price of approximately $3.6 million, consisting of $1.48 per Unit, inclusive of $0.25 per 2023 PIPE Warrant. The financing closed on January 4, 2023 (the "January 2023 PIPE"), resulting in net proceeds of $3.2 million, after deducting offering costs of $361 thousand.

The following table reconciles the gross proceeds received from the January 2023 PIPE to the statement of cash flows:

Total gross proceeds	3,561,238
Advanced deposits received in FY22	(1,505,625)
Non-cash proceeds related to board compensation	(68,125)
Issuance costs paid in cash	(536)
FY23 cash proceeds from January 2023 PIPE, net of issuance costs	1,986,952

Common Stock Purchase Agreement

On August 31, 2022, the Company entered into a purchase agreement (the "Arena Purchase Agreement") with Arena Business Solutions Global SPC II, Ltd. ("Arena"), pursuant to which Arena has committed to purchase up to $15.0 million (the "Commitment Amount") of the Company's common stock, subject to an increase, at the Company's option, to $30.0 million of the Company's common stock (the "Additional Commitment Amount"). Under the terms and subject to the conditions of the Arena Purchase Agreement, the Company has the right, but not the obligation, to sell to Arena, and Arena is obligated to purchase up to $15.0 million of the Company's common stock, subject to increase at the Company's option by the Additional Commitment Amount. Such sales of common stock by the Company will be subject to certain limitations, and may occur from time to time, at the Company's sole discretion, over the approximately 36-month period commencing on the date of the Purchase Agreement, provided that the registration statement (the "Registration Statement") covering the resale by Arena of the shares of the Company's common stock purchased under the Purchase Agreement remains effective, and the other conditions set forth in the Arena Purchase Agreement are satisfied. The purchase price of the shares of the Company's common stock will be equal to 96% of the simple average of the daily VWAP of the Company's common stock immediately preceding the time of sale as computed under the Arena Purchase Agreement.

The Company determined that its right to sell shares of the Company's common stock to Arena represents a freestanding put option under ASC 815, but has a fair value of zero, and therefore no additional accounting was required. The Company issued 296,181 shares of common stock (the "Commitment Shares") to Arena as a commitment fee in connection with entering into the Purchase Agreement. The $650 thousand fair value of the Commitment Shares along with $379 thousand of other issuance costs related to the Purchase Agreement were recognized as a loss within other expense, net in the year ended December 31, 2022.

During the three months ended March 31, 2023, the Company sold 37,230 shares of common stock at a weighted-average price of $1.32 per share, resulting in net proceeds of $49 thousand.

10. Stock-Based Compensation

2021 Stock Option and Grant Plan

On April 30, 2021, Legacy Comera established the 2021 Stock Option and Grant Plan (the "2021 Plan"), which provided for the grant of incentive stock options, non-statutory stock options, restricted stock awards, unrestricted stock awards and restricted stock units. In connection with the closing of the Transaction, option awards outstanding under the 2021 Plan were exchanged for options to purchase shares of the Company's common stock (the "Exchanged Options"), with proportional adjustments to the number of shares underlying the options and the exercise price of the options approved by the compensation committee and board of directors of Legacy Comera. Other than with respect to the exercise price and the underlying number of shares of the Company's common stock, the Exchanged Options remain subject to the terms and conditions of the Legacy Comera option awards issued pursuant to the 2021 Plan. The Exchanged Options are outstanding under and count against the number of shares reserved for issuance pursuant to the 2022 Equity and Incentive Plan (the "2022 Plan"). Following the closing of the Transaction, no additional awards may be granted under the 2021 Plan.

As of March 31, 2023, there were 2,516,734 options outstanding, inclusive of 1,159,934 Exchanged Options, exercisable for 1,159,934 shares of common stock at a weighted-average exercise price of $0.59 per share.

2022 Equity and Incentive Plan

On May 10, 2022, the Company established the 2022 Plan, which provides for the grant of incentive stock options, non-statutory stock options, restricted stock awards, unrestricted stock awards, restricted stock units, stock appreciation rights, cash awards and dividend equivalent rights. Incentive stock options may be granted only to the Company's employees, including officers. Non-statutory options, restricted stock awards, unrestricted stock awards, restricted stock units, stock appreciation rights, cash awards and dividend equivalent rights may be granted to employees, directors, consultants and key persons of the Company.

The total number of common shares authorized to be issued under the 2022 Plan was 2,059,838. The share pool will automatically increase on January 1 of each year by four percent of the number of shares of Stock outstanding on the immediately preceding December 31, or such lesser number of shares as approved by the board of directors. The pool increased by 794,368 shares on January 1, 2023. As of March 31, 2023, there were 2,516,734 options outstanding, including 150,000 options related to an employee inducement grant in November 2022 as well as the Exchanged Options, with a weighted-average exercise price of $1.62 and 487,473 shares available for future grants under the 2022 Plan.

Shares underlying awards that are forfeited, cancelled, reacquired by the Company prior to vesting, satisfied without the issuance of common stock, or are otherwise terminated under the 2022 Plan without having been fully exercised (including the Exchanged Options) will be available for future awards.

Stock Option Activity

The following table summarizes the Company's stock option activity for the three months ended March 31, 2023:

	Number of Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value (in thousands)
Outstanding as of December 31, 2022	2,152,641	$ 1.67	9.1	$ 748
Granted	372,600	1.30		
Cancelled or forfeited	(8,507)	0.59		
Outstanding as of March 31, 2023	2,516,734	$ 1.62	9.0	$ 358
Exercisable as of March 31, 2023	557,606	$ 0.59	8.3	$ 171

The aggregate intrinsic value of stock options is calculated as the difference between the exercise price of the underlying stock options and the estimated fair value of the Company's common stock for those stock options that had exercise prices lower than the estimated fair value of the Company's common stock.

The weighted-average grant date fair value of options granted during the three months ended March 31, 2023 was $0.84.

As of March 31, 2023, total unrecognized compensation cost related to the unvested stock options was $2.1 million, which is expected to be recognized over a weighted-average period of 3.2 years.

Stock-Based Compensation

Stock-based compensation expense was allocated as follows:

	Three Months Ended March 31,	
	2023	2022
Cost of revenue	$ 1,883	$ 414
Research and development	4,941	3,798
General and administrative	293,941	38,344
Total stock-based compensation	$ 300,765	$ 42,556

11. Common Stock Warrants

During the three months ended March 31, 2023, there were 4,812,484 warrants issued. There were no warrants exercised or expired.

The following represents a summary of the warrants outstanding and exercisable at March 31, 2023:

					Number of Shares Underlying Warrants	
Description	Issue Date	Classification	Exercise Price	Expiration Date	Outstanding Shares	Exercisable Shares
2020 Private Placement Warrants	Nov 17, 2020	Liability	$ 11.50	May 19, 2027	5,817,757	5,817,757
Public Warrants	Nov 17, 2020	Equity	$ 11.50	May 19, 2027	5,223,575	5,223,575
January 2023 PIPE Warrants	Jan 4, 2023	Equity	$ 1.23	Jan 4, 2028	4,812,484	4,812,484
					15,853,816	15,853,816

The following table summarizes warrant activity for the three months ended March 31, 2023:

	Number of Common Warrants	Weighted Average Exercise Price	Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding as of December 31, 2022	11,041,332	$ 11.50	4.38	$ —
Warrants issued	4,812,484	$ 1.23	4.76	
Outstanding as of March 31, 2023	15,853,816	$ 8.38	4.33	$ —

The Company's freestanding warrant instruments consist of private placement warrants to purchase shares of common stock (the "2020 Private Placement Warrants") and public warrants to purchase shares of common stock (the "Public Warrants") that were assumed as part of the Transaction. In addition, the Company issued the January 2023 PIPE Warrants in connection with the January 2023 PIPE. The January 2023 PIPE Warrants are considered freestanding instruments and are immediately exercisable for two shares of the Company's common stock at an exercise price of $1.23 per Warrant Share for an aggregate of 4,812,484 Warrant Shares. The January 2023 PIPE Warrants are indexed to the Company's common stock and meet the equity classification criteria.

12. Concentrations of Risk

The Company has certain customers whose revenue individually represented 10% or more of the Company's total revenue or whose accounts receivable balances individually represented 10% or more of the Company's total accounts receivable.

For the three months ended March 31, 2023 and 2022, one customer accounted for 100% and two customers accounted for 95% of revenue recognized in the period, respectively.

There were no accounts receivables as of March 31, 2023.

13. Income Taxes

The Company had no income tax expense due to operating losses incurred for the three months ended March 31, 2023 and 2022.

Management of the Company evaluated the positive and negative evidence bearing upon the realizability of its deferred tax assets and determined that it is more likely than not that the Company will not recognize the benefits of the deferred tax assets. As a result, a full valuation allowance was recorded as of March 31, 2023.

The Company applies ASC 740, *Income Taxes*, for the financial statement recognition, measurement, presentation, and disclosure of uncertain tax positions taken or expected to be taken in income tax returns. Unrecognized tax benefits represent tax positions for which reserves have been established. A full valuation allowance has been provided against the Company's deferred tax assets, so that the effect of the unrecognized tax benefits is to reduce the gross amount of the deferred tax asset and the corresponding valuation allowance. The Company has no material uncertain tax positions as of March 31, 2023. The Company has never been examined by the Internal Revenue Service, or any other jurisdiction, for any tax years and, as such, all years within the applicable statutes of limitations are potentially subject to audit.

14. Net Loss per Share – Basic and Diluted

For the three months ended March 31, 2023 and 2022, basic net loss per share is computed by dividing the net loss attributable to common stockholders by the weighted average number of common shares. Undistributed losses were allocated entirely to common stockholders since neither the convertible preferred stock nor the contingently returnable earn-out shares from the Transaction (the "Earn-Out Shares") are required to share in the losses of the Company.

For the three months ended March 31, 2023 and 2022, diluted net loss per share is the same as basic net loss per share since the effect of considering options to purchase common stock, warrants to purchase common stock, Earn-Out Shares, and convertible preferred stock in the calculation would be antidilutive.

The following potentially dilutive common stock instruments presented based on amounts outstanding at each period end, were excluded from the computation of diluted net loss per share because including them would have had an antidilutive effect:

	Three Months Ended March 31,	
	2023	2022
Options to purchase common stock	2,516,734	1,902,643
Earn-Out Shares	3,150,000	—
Convertible preferred stock (as converted to common stock)	342,754	10,643,403
Warrants to purchase common stock	15,853,816	—

The following table sets forth the calculation of basic and diluted net loss per share:

	Three Months Ended March 31,	
	2023	2022
Net loss available to common stockholders — basic and diluted	$ (2,568,128)	$ (2,879,395)
Weighted-average number of common shares used in computing net loss per share attributable to common stockholders —basic and diluted	19,033,436	718,419
Net loss per share attributable to common stockholders — basic and diluted	$ (0.13)	$ (4.01)

15. Commitments and Contingencies

Leases

On March 8, 2018, the Company entered into a non-cancelable operating lease agreement for office and laboratory space in Woburn, Massachusetts. On March 10, 2021, the Company extended the lease agreement through June 30, 2024 with monthly payments of $12 thousand, subject to annual increases in January based on changes in the consumer price index. On March 4, 2022, the Company executed the first amendment to the Woburn Lease (the "Amendment") which increased the size of the leased office and laboratory space with aggregate monthly payments of $18 thousand, subject to annual increases based on the consumer price index, in addition to payment of a proportional share of operating costs.

The maturities and balance sheet presentation under all non-cancelable operating leases as of March 31, 2023, are as follows:

	Operating Leases
Maturity of lease liabilities	
2023	$ 163,159
2024	123,077
Total lease liabilities	286,236
Less imputed interest	(15,067)
Present value of operating lease liability as of March 31, 2023	$ 271,169
Reported as of March 31, 2023	
Lease liabilities — current	$ 217,500
Lease liabilities — noncurrent	53,669
	$ 271,169

As the Company's leases do not provide an implicit rate, the Company estimated its incremental borrowing rate based on the information available at each lease commencement date in determining the present value of the lease payments. The weighted-average discount rate used for leases as of March 31, 2023 is 8.0%. The weighted-average lease term as of March 31, 2023 is 1.3 years. During the three months ended March 31, 2023 and 2022 operating cash flows used for operating leases was $54 thousand and $36 thousand, respectively. During the three months ended March 31, 2023 and 2022, lease cost was $56 thousand and $35 thousand, respectively.

Amounts included in restricted cash as of March 31, 2023 and December 31, 2022 included $50 thousand held to collateralize a letter of credit issued as a security deposit in connection with the Company's lease of its corporate facility and for certain credit cards.

Legal Proceedings

The Company, from time to time, may be party to litigation arising in the ordinary course of business. The Company was not subject to any material legal proceedings as of March 31, 2023, and, to the best of the Company's knowledge, no material legal proceedings are currently pending or threatened.

Indemnification Agreements

The Company enters into standard indemnification agreements in the ordinary course of business. Pursuant to the agreements, the Company agrees to indemnify, hold harmless, and to reimburse the indemnified party for losses suffered or incurred by the indemnified party, generally the Company's business partners, in connection with any U.S. patent or any copyright or other intellectual property infringement claim by any third-party with respect to the Company's products. The term of these indemnification agreements is generally perpetual any time after execution of the agreement. In addition, the Company has entered into indemnification agreements with members of its board of directors and its executive officers that will require the Company, among other things, to indemnify them against certain liabilities that may arise by reason of their status or service as directors or officers. In addition, the Company maintains officers and directors insurance coverage. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited. Through March 31, 2023, the Company had not experienced any losses related to these indemnification agreements and no material claims were outstanding.

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

You should read the following discussion and analysis of our financial condition and results of operations together with our unaudited consolidated financial statements and the notes thereto included elsewhere in this Quarterly Report on Form 10-Q as well as the audited consolidated financial statements and the related notes included in our 2022 Annual Report. Some of the information contained in this discussion and analysis or set forth elsewhere in this Quarterly Report on Form 10-Q, including information with respect to our plans and strategy for our business and related financing, includes forward-looking statements that involve risks, uncertainties and assumptions. You should read the "Forward-Looking Statements" and "Risk Factors" sections of this Quarterly Report on Form 10-Q and our 2022 Annual Report for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis. For periods prior to the closing of the Transaction, the use of "our", "we" and words of similar import in this Item 2 refer to our predecessor, Legacy Comera.

Forward Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements. All statements other than statements of historical fact contained herein, including statements regarding our business plans or strategies, projected or anticipated benefits or other consequences of our plans or strategies, projected or anticipated benefits from acquisitions to be made by us, or projections involving anticipated revenues, earnings, or other aspects of our operating results, are forward-looking statements. Words such as "anticipates," "assumes," "believes," "can," "could," "estimates," "expects," "forecasts," "guides," "intends," "is confident that," "may," "plans," "seeks," "projects," "targets," and "would," and their opposites and similar expressions, as well as statements in future tense, are intended to identify forward-looking statements. Forward-looking statements should not be read as a guarantee of future performance or results and may not be accurate indications of when such performance or results will actually be achieved. Forward-looking statements are based on information we have when those statements are made or our management's good faith belief as of that time with respect to future events and are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in or suggested by the forward-looking statements. Important factors that could cause such differences include, but are not limited to:

- the risk that we will need to raise additional capital to execute our business plan, which may not be available on acceptable terms or at all;
- our ability to maintain the listing of our securities on the Nasdaq Capital Market ("Nasdaq");
- the price of our securities may be volatile due to a variety of factors, including volatility in the capital markets generally, changes in the competitive and highly regulated industries in which we plan to operate, variations in performance across related parts competitors, changes in laws and regulations affecting our business and changes in the capital structure;
- the ability to implement business plans, forecasts, and identify and realize additional opportunities;
- the risk of downturns and the possibility of rapid change in the highly competitive industry in which we operate;
- the risk that we and our current and future collaborators are unable to successfully develop and commercialize our products or services, or experience significant delays in doing so;
- the risk that we may never achieve or sustain profitability;
- the risk that we experience difficulties in managing our growth and expanding operations;
- the risk that third-party suppliers and manufacturers are not able to fully and timely meet their obligations;
- the risk that we are unable to secure or protect our intellectual property;
- the effect of the COVID-19 pandemic on our business;
- general economic conditions; and
- other risks and uncertainties described in this Quarterly Report on Form 10-Q, including those under the section entitled "Risk Factors".

Should one or more of these risks or uncertainties materialize or should any of the assumptions made by the management of the Company prove incorrect, actual results may vary in material respects from those projected in these forward-looking statements.

Except to the extent required by applicable law or regulation, the Company undertakes no obligation to update these forward-looking statements to reflect events or circumstances after the date of this Quarterly Report on Form 10-Q or to reflect the occurrence of unanticipated events.

Overview

Comera is a pre-clinical biotechnology company dedicated to promoting a compassionate new era in medicine by applying a deep knowledge of formulation science and technology to transform essential biologic medicines from intravenous to subcutaneous forms. Although Comera's product candidates are at the pre-clinical stage and none have been approved for commercial sale, Comera's internal portfolio of proprietary techniques known as the SQore™ platform, is designed to potentially transform essential biologic medicines from intravenous ("IV") to subcutaneous ("SQ") forms, optimize current versions of subcutaneous biologics, and produce biosimilar versions of existing subcutaneous products. If successful, this transformation in administration could provide patients using biological products through intravenous infusion, and their families, the freedom of self-injectable care which, Comera believes, would allow them to enjoy both the potential benefits of biologic treatments and the potential of their own lives while simultaneously lowering healthcare costs. To accomplish this, Comera is developing an internal portfolio of proprietary therapeutic product candidates using its innovative proprietary formulation platform, SQore™. Comera also collaborates with pharmaceutical and biotechnology companies, applying the SQore™ platform to our partners' biologic medicines to deliver enhanced SQ formulations.

Business

Comera is a preclinical stage life sciences company dedicated to promoting a compassionate new era in medicine. We apply a deep knowledge of formulation science and proprietary technology to optimize biologic medicines. Our internal portfolio of proprietary techniques known as our SQore™ platform, is designed to potentially:

- transform essential biologic medicines from IV to SQ forms;
- optimize current versions of subcutaneous biologics; and
- produce biosimilar versions of existing subcutaneous products.

We aim to develop these potentialities in order to transform administration from IV to SQ and thereby provide patients using biological products through intravenous infusion, and their families, with the freedom of self-injectable care which, we believe, would allow them to enjoy both the potential benefits of biologic treatments and the potential of their own lives while simultaneously lowering healthcare costs and increasing patient compliance.

The SQore™ platform, which is the foundation of our work, is supported by an extensive patent portfolio and encompasses years of knowledge and development from our team of scientists, including industry-leading experts in polymer engineering and interfacial dynamics (the way that different molecules interact) who are inventors on dozens of patents and have published widely-cited research in their fields. We believe that our combined polymer and small molecule capability will allow us to leverage a mechanistic understanding of protein-protein and protein-solvent interactions to identify suitable excipients for specific formulations, which allows the active, therapeutic ingredient to enter the body and arrive with sufficient potency.

We aim to achieve our mission by developing our own portfolio of therapeutic product candidates and by collaborating with pharmaceutical and biotechnology companies to transform their biologic medicines into enhanced SQ formulations.

Since our founding in 2014, we primarily engaged in early-stage, preclinical studies, commissioned on a fee-for-service basis by larger pharmaceutical companies and have not yet developed any products approved for marketing. Our studies for larger companies were generally early-stage investigations, often amounting to proof-of-concept work, aimed at moving existing formulations from IV infusion to SQ delivery via injection.

In 2021, we brought on a new leadership team and carried out a transition of our business model. We shifted away from simple "fee for services" formulation work and focused our efforts on engaging with higher-value-add partners in integrated, collaborative projects to develop formulations for their key products. We are currently working with multiple companies under research and development service agreements. These agreements typically have a term of less than 12 months and provide for an initial payment by the company of a fee to Comera for the evaluation by Comera of its proprietary technology for viscosity reduction with the other company's proprietary biotherapeutic agent. The agreements set forth the detailed research plans and the related timeline for completion of the research. The agreements provide that each party retains ownership of its technology throughout the process. Upon completion of the project, the parties may negotiate in good faith the terms of a license agreement. If the parties do not successfully negotiate a license, each party retains ownership of its technology and neither party may use the joint invention. Because these research and development service agreements may result in the future negotiation and execution of licensing agreements, we believe these projects provide far greater opportunities for generating revenue. When we meet our partners' defined project criteria for the formulations, we will seek a license agreement to receive license fees, milestone payments, and longer-term and more stable royalty revenue on commercial assets that are vital to our partners.

On January 7, 2022, we changed our name to Comera Life Sciences, Inc. from ReForm Biologics, Inc. to emphasize our vision of a compassionate new era in medicine.

On May 19, 2022, we consummated the acquisition of all of the issued and outstanding shares of OTR Acquisition Corp. and Comera Life Sciences, Inc. The transaction was accounted for as a reverse recapitalization.

SQore™ Platform

Comera's SQore™ platform, supported by an extensive patent portfolio and encompassing years of development and experience, is designed to enable the conversion of IV biologics to SQ versions. We believe that our team of experienced scientists includes industry-leading experts in polymer engineering and interfacial dynamics who are inventors on dozens of patents and have published widely-cited research in their fields. This expertise complements our solid grounding in traditional protein chemistry. Our combined polymer and small molecule capability allows us to leverage a mechanistic understanding of protein-protein and protein-solvent interactions to tailor excipient selection for specific formulation needs. This scientific foundation supports the SQore™ platform for our formulation work. Based on this platform, our technology has the potential to lower healthcare costs, increase patient compliance and enhance patient lives – all major factors which we believe will help set Comera apart from its peers in the years ahead.

Financial Overview

Revenue

Through March 31, 2023, we have generated revenue from the second phase of a research agreement with a partner. These arrangements generally represent formulation development collaborations with rights to negotiate product-specific licenses for a broad spectrum of protein-based therapeutics. Initially, arrangements have provided compensation for research efforts. The arrangements also provide that if the research efforts are successful, additional development and commercialization arrangements may be separately negotiated and executed, which may include upfront payments, milestones, and royalties on commercial sales. We generally expect revenue to increase as we execute additional research agreements and as planned development and collaboration arrangements are executed.

We have not generated any revenue from product sales and do not expect to generate any revenue from the sale of products in the near future. If development efforts for our pipeline programs are successful and result in regulatory approval, we may generate product revenue in the future.

Cost of Revenue

Cost of revenue generally consists of personnel expenses (comprised of salaries, bonuses, employee benefits and stock-based compensation expenses), and direct materials costs, third-party laboratory costs, and other costs necessary to complete the research arrangements. In addition, costs include allocated depreciation of laboratory equipment and amortization of leasehold improvements, and certain overhead expenses including facilities costs. Costs associated with revenue are recorded as the research is performed. We generally expect cost of revenue to increase as revenue increases, however margins on our customer contracts may vary widely.

Operating Expenses

Research and Development Expenses

Research and development expenses consist primarily of costs incurred in connection with the enhancement of our product platform and with the discovery and development of our pipeline programs. We expense research and development costs as incurred. These expenses include:

- expenses incurred under agreements with contract research organizations, and contract manufacturing organizations, as well as consultants that conduct research and development activities on our behalf;
- employee-related expenses, including salaries, related benefits, travel and stock-based compensation expense for employees engaged in research and development functions;
- costs related to compliance with regulatory requirements; and
- allocated facilities costs, depreciation and other expenses, which include rent and utilities.

We recognize external development costs based on an evaluation of the progress to completion of specific tasks using information provided to us by our service providers.

Research and development activities are central to our business model. Current activities primarily relate to the enhancement of our SQore™ technology platform and other research activities, as well as initiation of formulation development work and manufacturing activities for our pipeline programs. We expect that our research and development expenses will increase substantially over the next several years including increased costs related to the development of pipeline programs, particularly as we increase personnel costs, including stock-based compensation, contractor costs and facilities costs and direct costs paid to contract research, development, and manufacturing organizations to conduct pipeline research and development activities on our behalf. In addition, if we elect to in-license or otherwise acquire additional pipeline products or additional intellectual property, we will also incur additional expenses which may include upfront, milestone and royalty payments payable to third parties.

The successful discovery, development and commercialization of our pipeline programs is highly uncertain. At this time, we cannot reasonably estimate or know the nature, timing and costs of the efforts that will be necessary to complete the discovery or development of any of our potential pipeline programs or when, if ever, material net cash inflows may commence from any of our pipeline programs.

Our research and development expenses are not currently tracked on a program-by-program basis. Our research and development expenses consist primarily of external costs, such as fees paid to outside consultants, contract research organizations, contract manufacturing organizations, and central laboratories, and internal costs such as employee costs and facility expenses, including depreciation or other indirect costs.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries, related benefits, travel and stock-based compensation expense for personnel in executive, finance and administrative functions. General and administrative expenses also include professional fees for legal, consulting, accounting and audit services. In addition, general and administrative expenses also include costs incurred in connection with the Transaction, expenses primarily related to advisory, legal, and accounting fees.

We anticipate that our general and administrative expenses will increase in the future as we increase our headcount to support our continued research activities, and as a result of operating as a public company, including compliance with federal securities laws, legal, audit, additional insurance expenses, investor relations activities, and other administrative and professional services. We anticipate the additional costs for these services will substantially increase our general and administrative expenses. Additionally, if and when we believe a regulatory approval of a pipeline programs appears likely, we anticipate an increase in payroll and expense as a result of our preparation for commercial operations, especially as it relates to the sales and marketing of our pipeline programs.

Critical Accounting Policies and Significant Judgments and Estimates

Our condensed consolidated financial statements are prepared in accordance with generally accepted accounting principles in the United States. The preparation of our condensed consolidated financial statements and related disclosures requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue, costs and expenses, and the disclosure of contingent assets and liabilities in our condensed consolidated financial statements. We base our estimates on historical experience, known trends and events and various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates under different assumptions or conditions.

There were no changes to our critical accounting policies during the three months ended March 31, 2023, including estimates, assumptions, and judgments as compared to those described in Management’s Discussion and Analysis of Financial Condition and Results of Operations included in the 2022 Annual Report. It is important that the discussion of our operating results that follow be read in conjunction with the critical accounting policies disclosed in the 2022 Annual Report.

Results of Operations

Three Months Ended March 31, 2023 Compared with Three Months Ended March 31, 2022

The following table sets forth our results of operations for the three months ended March 31, 2023 and 2022:

	Three Months Ended March 31,		Change	
	2023	2022	Dollar	Percentage
Revenue	$ 392,915	$ 95,334	$ 297,581	312 %
Cost of revenue	116,519	44,524	71,995	162 %
Operating expenses:				
Research and development	343,705	487,217	(143,512)	(29)%
General and administrative	2,433,147	2,016,245	416,902	21 %
Total operating expenses	2,776,852	2,503,462	273,390	11 %
Loss from operations	(2,500,456)	(2,452,652)	(47,804)	2 %
Other income (expense), net	19,144	(426,743)	445,887	(104)%
Net loss and comprehensive loss	$ (2,481,312)	$ (2,879,395)	$ 398,083	(14)%

Revenue

Revenue was $393 thousand for the three months ended March 31, 2023, compared to $95 thousand for the three months ended March 31, 2022. The increase of $298 thousand is primarily related to the extension and expansion of the ongoing research collaboration with Regeneron Pharmaceuticals.

Cost of Revenue

Cost of revenue was $117 thousand for the three months ended March 31, 2023, compared to $45 thousand for the three months ended March 31, 2022. The increase of $72 thousand is primarily related to higher direct labor costs incurred during the three months ended March 31, 2023, due to an increase in research activities performed under customer contracts.

Research and Development Expenses

The following table sets forth our research and development expenses for the three months ended March 31, 2023 and 2022:

	Three Months Ended March 31,		Change	
	2023	2022	Dollar	Percentage
Employee related	$ 214,691	$ 242,112	$ (27,421)	(11)%
Lab supplies and materials	71,806	187,311	(115,505)	(62)%
Occupancy and facility related	46,713	34,953	11,760	34 %
Other	10,495	22,841	(12,346)	(54)%
Total research and development expense	$ 343,705	$ 487,217	$ (143,512)	(29)%

Research and development expenses were $344 thousand for the three months ended March 31, 2023, compared to $487 thousand for the three months ended March 31, 2022. The overall decrease of $144 thousand is primarily related to lower lab supply expenses in three months ended March 31, 2023 and a greater allocation of resources to cost of revenue in three months ended March 31, 2023.

General and Administrative Expenses

General and administrative expenses were $2.4 million for the three months ended March 31, 2023, compared to $2.0 million for the three months ended March 31, 2022. The increase of $417 thousand is primarily related to increases in expenses in connection with the Company's growth and costs associated with operating a public company. These increases include $331 thousand of personnel costs, $256 thousand of non-cash stock compensation fees, $107 thousand of patent fees, and $374 thousand of directors and officers liability insurance. These increases were partially offset by decreases of $414 thousand in consulting fees and $333 thousand of accounting fees.

Other Income (Expense), Net

For the three months ended March 31, 2023, total other income, net is comprised of a $27 thousand change in fair value of derivative warrant liabilities, partially offset by $8 thousand of interest expense.

For the three months ended March 31, 2022, total other expense, net primarily related to $427 thousand related to a loss on diverted funds, as previously disclosed.

Liquidity and Capital Resources

Since our inception, we have incurred significant operating losses. We do not have any products approved for sale and have not generated any revenue from product sales. As of March 31, 2023, we have generated revenue from research agreements with various partners. Our ability to generate revenue sufficient to achieve profitability will depend heavily on the successful development and eventual licensing and/or commercialization of one or more of our current or future pipeline programs as well as continued successful execution of pharmaceutical research collaborations and subsequent execution of collaboration programs. Our net loss was $2.5 million for the three months ended March 31, 2023. As of March 31, 2023, we had an accumulated deficit of $37.4 million. We expect to continue to incur losses for at least the next several years as we continue to develop our SQore™ platform and conduct research and development activities on our pipeline programs. In addition, we expect our expenses to increase as our pipeline programs advance into clinical development and eventual regulatory approval stages. If we obtain marketing approval for any of our pipeline programs, we expect to incur significant commercialization expenses related to product manufacturing, marketing, sales and distribution. As of March 31, 2023, the Company has not engaged in any off-balance sheet arrangements that have or are reasonably likely to have a current or future material effect on the Company’s financial condition, results of operations or cash flows.

On January 2, 2023, we entered into the 2023 PIPE Purchase Agreement with a select group of existing shareholders and members of the Company's board of directors (the “Purchasers”), pursuant to which the Company issued and sold to the Purchasers in a private placement of our securities an aggregate of 2,406,242 units (collectively, the “Units”), each Unit consisting of (i) one share of common stock, and (ii) one warrant (the “January 2023 PIPE Warrants”) to purchase two shares of common stock (the “Warrant Shares”) at an exercise price of $1.23 per Warrant Share, for an aggregate purchase price of approximately $3.6 million, consisting of $1.48 per Unit, inclusive of $0.25 per 2023 January PIPE Warrant. The financing closed on January 4, 2023 (the “January 2023 PIPE”), resulting in net proceeds of $3.2 million, after deducting offering costs of $361 thousand.

We will receive up to an aggregate of $127.0 million if all of the outstanding Public Warrants and 2020 Private Placement Warrants and $5.9 million if all of the outstanding January 2023 PIPE Warrants are exercised for cash. However, we will only receive such proceeds if and when the warrant holders exercise such warrants, and we believe the likelihood that holders of the Public Warrants will exercise their warrants, and therefore the amount of cash proceeds that we would receive, is dependent upon the market price of our common stock. The closing price of Comera common stock on Nasdaq on March 31, 2023 was $0.90, which is $10.60 below the exercise price of the Public Warrants. If the market price for Comera common stock does not increase from the current level, it is unlikely that any of the Public Warrants will be exercised.

We will need substantial additional funding to support our continuing operations and pursue our growth strategy. Until such time, if ever, that we can generate product revenue sufficient to achieve profitability, we expect to finance our cash needs through a combination of equity offerings, debt financings, collaboration agreements, government and other third-party funding, strategic alliances, licensing arrangements or marketing and distribution arrangements. Debt financing and equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through government and other third-party funding, collaboration agreements, strategic alliances, licensing arrangements or marketing and distribution arrangements, we may have to relinquish valuable rights to our technologies, future revenue streams, pipeline programs or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market products or pipeline programs that we would otherwise prefer to develop and market ourselves.

Because of the numerous risks and uncertainties associated with product development, we are unable to predict the timing or amount of increased expenses or when or if we will be able to achieve or maintain profitability. Even if we are able to generate product sales, we may not become profitable. If we fail to become profitable or are unable to sustain profitability on a continuing basis, we may be unable to continue our operations at planned levels and be forced to reduce or terminate our operations.

We do not believe the cash and cash equivalents as of March 31, 2023 will be sufficient to fund our operations for the next twelve months from the date of issuance of the condensed consolidated financial statements. We will be required to raise additional capital to continue to fund operations and capital expenditures. Such funding may not be available on acceptable terms, or at all. If we are unable to access additional funds when needed, we may not be able to continue operations or we may be required to delay, scale back or eliminate some or all of our ongoing research and development efforts and other operations. Our ability to access capital when needed is not assured and, if not achieved on a timely basis, will materially harm our business, financial condition and results of operations. These uncertainties create substantial doubt about our ability to continue as a going concern.

Cash Flows

The following table sets forth the sources and uses of cash, cash equivalents, and restricted cash for the three months ended March 31, 2023 and 2022:

	Three Months Ended March 31,	
	2023	2022
Net cash used in operating activities	$ (1,905,768)	$ (2,869,552)
Net cash used in investing activities	(88,359)	—
Net cash provided by financing activities	1,580,548	222,513
Net decrease in cash, cash equivalents and restricted cash	$ (413,579)	$ (2,647,039)

Operating Activities

During the three months ended March 31, 2023, net cash used in operating activities was $1.9 million which consisted of a $2.5 million net loss, partially offset by $304 thousand of net non-cash adjustments to reconcile net loss to cash used in operating activities and $272 thousand of changes in operating assets and liabilities. Our net non-cash adjustments to reconcile net loss to cash used in operating activities were primarily comprised of $301 thousand of stock-based compensation expense and $28 thousand of depreciation expense, partially offset by $27 thousand change in fair value of derivative warrant liabilities. The net cash inflows associated with changes in operating assets and liabilities was primarily due to increases of $126 thousand in accounts payable and $138 thousand in accrued expenses and other current liabilities and decreases of $118 thousand in prepaid expenses and other current assets and $34 thousand in accounts receivable, partially offset by $144 thousand decrease in deferred revenue.

During the three months ended March 31, 2022, net cash used in operating activities was $2.9 million which consisted of a $2.9 million net loss, partially offset by $67 thousand of net non-cash adjustments to reconcile net loss to cash used in operating activities and $57 thousand of changes in operating assets and liabilities. Our net non-cash adjustments to reconcile net loss to cash used in operating activities were primarily comprised of $43 thousand of stock-based compensation expense and $25 thousand of depreciation expense. The net cash outflows associated with changes in operating assets and liabilities was primarily due to a decrease of $301 thousand in accrued expenses and other current liabilities and an increase of $148 thousand in accounts receivable, partially offset by increases of $123 thousand in accounts payable and $48 thousand in deferred revenue and a decrease of $221 thousand of prepaid expenses and other current assets.

Investing Activities

The cash outflows from investing activities for the three months ended March 31, 2023 related to the purchase of property and equipment. There were no investing activities for the three months ended March 31, 2022.

Financing Activities

Financing activities during the three months ended March 31, 2023 related to $2.0 million of net proceeds received from the January 2023 PIPE (excluding $1.5 million in proceeds received as advanced deposits on or prior to December 31, 2022) and $49 thousand of proceeds from the Arena Purchase Agreement, partially offset by $456 thousand of repayments under our insurance premium financing arrangement.

Financing activities during the three months ended March 31, 2022 related to $429 thousand of proceeds from the exercise of stock options, partially offset by $207 thousand of deferred offering costs paid in cash.

Known Trends, Events and Uncertainties

On April 10, 2023, President Biden signed a joint congressional resolution ending the national emergency related to COVID-19 and the Biden Administration previously announced it will end the public health emergency declaration related to COVID-19 on May 11, 2023. Nonetheless, COVID-19 continues to present a public health and economic challenge around the world. COVID-19 has resulted in significant economic uncertainty and volatility in the credit and capital markets and has caused global inflationary and supply chain pressures. As a result, we may not be able to raise sufficient capital to commercialize our current and future product candidates. The length of time and full extent to which COVID-19 may directly or indirectly impact our business, results of operations and financial condition will depend on future developments that are highly uncertain, subject to change and difficult to predict. We plan to continue to closely monitor the ongoing impact of COVID-19 (including the emergence of new variants) on our operations.

Other than as discussed above and elsewhere in this Quarterly Report on Form 10-Q, we are not aware of any trends, events or uncertainties that are likely to have a material effect on our financial condition.

Recently Issued Accounting Pronouncements

A description of recently issued accounting pronouncements that may potentially impact our financial position, results of operations or cash flows is disclosed in Note 2, *Basis of Presentation and Significant Accounting Policies*, to our condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Not applicable.

Item 4. Controls and Procedures.

Disclosure Controls and Procedures

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 Securities Exchange Act of 1934, as amended (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 company reports filed or submitted under the Exchange Act is accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Our Chief Executive Officer and Chief Financial Officer, after evaluating the effectiveness of our disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) as of March 31, 2023, have concluded that, based on such evaluation, our disclosure controls and procedures were effective.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) during the quarter ended March 31, 2023 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations of the Effectiveness of Internal Controls

A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the internal control system are met. Because of the inherent limitations of any internal control system, no evaluation of controls can provide absolute assurance that all control issues, if any, within a company have been detected.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings.

From time to time, we may be involved in litigation that arises through the normal course of business. As of the date of this filing, we are not aware of any material legal proceedings to which we or any of our subsidiaries is a party or to which any of our property is subject, nor are we aware of any such threatened or pending litigation or any such proceedings known to be contemplated by governmental authorities.

We are not aware of any material proceedings in which any of our directors, officers, or affiliates or any registered or beneficial stockholder of more than 5% of our common stock, or any associate of any of the foregoing, is a party adverse to or has a material interest adverse to, us or any of our subsidiaries.

Item 1A. Risk Factors.

Our business faces significant risks and uncertainties. Certain factors may have a material adverse effect on our business prospects, financial condition and results of operations, and you should carefully consider them. Accordingly, in evaluating our business, we encourage you to consider the risks described in the section of our 2022 Annual Report entitled "Item 1A. Risk Factors." Other than those listed below, there have been no material changes to such risk factors during the quarter ended March 31, 2023. Other events that we do not currently anticipate or that we currently deem immaterial may also affect our business, prospects, financial condition and results of operations.

There can be no assurance that we will be able to comply with the continued listing standards of Nasdaq.

Our common stock and our Public Warrants are listed on Nasdaq. There can be no assurance that we will continue to meet Nasdaq's listing standards. On November 18, 2022, we received a letter from the Nasdaq Listing Qualifications department staff of Nasdaq notifying us that, for the then prior 30 consecutive business days, the minimum Market Value of Listed Securities ("MVLS") was below the minimum $35 million required for continued listing on Nasdaq, pursuant to Nasdaq Listing Rule 5550(b)(2). In accordance with Nasdaq listing rule 5810(c)(3)(C), we have 180 calendar days, or until May 17, 2023 (the "Compliance Period"), to regain compliance. The notice states that to regain compliance, the Company's MVLS must close at or above $35 million for a minimum of ten consecutive business days (or such longer period of time as the Nasdaq staff may require in some circumstances, but generally not more than 20 consecutive business days) during the Compliance Period. We may also regain compliance by meeting the continued listing standard of a minimum stockholders' equity of at least $2.5 million. If we do not regain compliance by May 17, 2023, Nasdaq staff will provide written notice to the Company that its securities are subject to delisting. At that time, we may appeal any such delisting determination to a Nasdaq hearings panel.

In addition, on May 2, 2023, we received a letter from the Nasdaq Listing Qualifications department staff notifying us that we are not in compliance with the $1.00 minimum bid price requirement for continued listing on Nasdaq, as set forth in Listing Rule 5550(a)(2). In accordance with Listing Rule 5810(c)(3)(A), the Company has a period of 180 calendar days, or until October 30, 2023, to regain compliance with the minimum bid price requirement. To regain compliance, the closing bid price of the Company's common stock must meet or exceed $1.00 per share for a minimum of ten consecutive business days during this 180-day period. If the Company is not in compliance by October 30, 2023, the Company may be eligible for additional time to regain compliance. To qualify, the Company would be required to meet the continued listing requirement for market value of publicly held shares and all other initial listing standards for Nasdaq, except for the minimum bid price requirement. In addition, the Company would be required to notify Nasdaq of its intent to cure the minimum bid price deficiency. If the Company does not regain compliance within the allotted compliance periods, including any extensions that may be granted by Nasdaq, Nasdaq will provide notice that the Company's common stock will be subject to delisting. The Company would then be entitled to appeal Nasdaq's determination, but there can be no assurance that Nasdaq would grant the Company's request for continued listing.

If we do not regain compliance, we and our stockholders could face significant material adverse consequences, including:

- a limited availability of market quotations for its securities;
- reduced liquidity for its securities;
- a determination that our common stock is a "penny stock," which will require brokers trading in our common stock to adhere to more stringent rules and possibly result in a reduced level of trading activity in the secondary trading market for its securities;
- a limited amount of news and analyst coverage; and
- a decreased ability to issue additional securities or obtain additional financing in the future.

The National Securities Markets Improvement Act of 1996, which is a federal statute, prevents or preempts the states from regulating the sale of certain securities, which are referred to as "covered securities." If our common stock remains listed on Nasdaq, it will be considered a covered security. Although the states are preempted from regulating the sale of our securities, the federal statute does allow the states to investigate companies if there is a suspicion of fraud, and, if there is a finding of fraudulent activity, then the states can regulate or bar the sale of covered securities in a particular case. Further, if we were not listed on Nasdaq, our securities would not be covered securities and we would be subject to regulation in each state in which it offers its securities.

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

As previously disclosed in the Company's Current Report on Form 8-K filed on August 31, 2022, the Company entered into the Arena Purchase Agreement with Arena. As of May 12, 2023, the Company has sold an aggregate of 512,985 shares of its Common Stock at a weighted average price of approximately $1.71 per share for aggregate gross proceeds of approximately $879 thousand pursuant to the Arena Purchase Agreement. Of the 512,985 shares of Common Stock sold pursuant to the Arena Purchase Agreement, 37,230 shares of Common Stock were sold in the three months ended March 31, 2023, at a weighted average price of $1.32 per share, resulting in net proceeds of $49 thousand. The purchase price of the shares sold to Arena was equal to 96% of the simple average of the daily VWAP of the Company's Common Stock immediately preceding the time of sale, as computed under the Arena Purchase Agreement. The issuances of the shares of the Company's Common Stock pursuant to the Arena Purchase Agreement were deemed to be exempt from registration under Section 4(a)(2) of the Securities Act as a sale to an "accredited investor" as defined in Rule 501(a) of the Securities Act.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

None.

Item 6. Exhibits.

Exhibit Number	Description
2.1	Business Combination Agreement, dated as of January 31, 2022, among the Registrant, OTR Acquisition Corp., CLS Sub Merger 1 Corp., CLS Sub Merger 2 Corp. and Comera Life Sciences, Inc. (incorporated by reference to Exhibit 2.1 to the Quarterly Report on Form 10-Q filed by the Registrant with the SEC on August 15, 2022).
2.2	First Amendment to Business Combination Agreement, dated as of May 19, 2022 among the Registrant, OTR Acquisition Corp., CLS Sub Merger 1 Corp., CLS Sub Merger 1 Corp. and Comera Life Sciences, Inc. (incorporated by reference to Exhibit 2.2 to the Current Report on Form 8-K filed by the Registrant with the SEC on May 25, 2022).
3.1	Amended and Restated Certificate of Incorporation of the Registrant of the Registrant (incorporated by reference to Exhibit 3.1 to the Quarterly Report on Form 10-Q filed by the Registrant with the SEC on August 15, 2022).
3.2	Certificate of Designation of the Series A Convertible Perpetual Preferred Stock (incorporated by reference to Exhibit 3.3 to the Current Report on Form 8-K filed by the Registrant with the SEC on May 25, 2022).
3.3	Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.3 to the Quarterly Report on Form 10-Q filed by the Registrant with the SEC on August 15, 2022).
4.1	Form of Common Stock Warrant (incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K filed by the Registrant with the SEC on January 4, 2023).
10.1	Securities Purchase Agreement dated January 2, 2023, by and among Comera Life Sciences Holdings, Inc. and the Purchasers defined therein (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed by the Registrant with the SEC on January 4, 2023).
10.2	Registration Rights Agreement dated January 4, 2023, by and among Comera Life Sciences Holdings, Inc. and the Purchasers defined therein (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K filed by the Registrant with the SEC on January 4, 2023).
31.1*	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2*	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because 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 Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

COMERA LIFE SCIENCES HOLDINGS, INC.

Date: May 12, 2023

By: /s/ Jeffrey S. Hackman
Name: Jeffrey S. Hackman
Title: Chairman, President and Chief Executive Officer
(Principal Executive Officer)

Date: May 12, 2023

By: /s/ Michael Campbell
Name: Michael Campbell
Title: Executive Vice President and Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 31.1

CERTIFICATION OF THE PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Jeffrey Hackman, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q (this "report") of Comera Life Sciences Holdings, Inc. (the "registrant");
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) 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) [Omitted];
    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 affect adversely 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: May 12, 2022

By: /s/ Jeffrey Hackman

Jeffrey Hackman

Chairman, President and Chief Executive Officer

(*Principal Executive Officer*)

Exhibit 31.2

CERTIFICATION OF THE PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Michael Campbell, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q (this "report") of Comera Life Sciences Holdings, Inc. (the "registrant");
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) 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) [Omitted];
    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 affect adversely 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: May 12, 2022

By: /s/ Michael Campbell

Michael Campbell

Executive Vice President and Chief Financial Officer

(*Principal Financial Officer and Principal Accounting Officer*)

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. §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 Comera Life Sciences Holdings, Inc. (the "Company") for the period ended March 31, 2023, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned Chairman, President and Chief Executive Officer of the Company, certifies, to the best knowledge and belief of the signatory, pursuant to 18 U.S.C. §1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

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.

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

/s/ Jeffrey Hackman

Jeffrey Hackman

Chairman, President and Chief Executive Officer

(*Principal Executive Officer*)

Date: May 12, 2023

FH11009614.1

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. §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 Comera Life Sciences Holdings, Inc. (the "Company") for the period ended March 31, 2023, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned Executive Vice President and Chief Financial Officer of the Company, certifies, to the best knowledge and belief of the signatory, pursuant to 18 U.S.C. §1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

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.

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

/s/ Michael Campbell

Michael Campbell

Executive Vice President and Chief Financial Officer

(*Principal Financial Officer and Principal Accounting Officer*)

Date: May 12, 2023