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UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

☒ **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 transition period from _____ to _____.

Commission File Number: 001-31918

Aceragen, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**04-3072298**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
505 Eagleview Blvd., Suite 212 Exton, Pennsylvania	**19341**
(Address of principal executive offices)	(Zip code)

(484) 348-1600

(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.001 per share	ACGN	Nasdaq Capital Market

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

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

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

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 ☒

Common Stock, par value $.001 per share	8,423,504
Class	Outstanding as of June 29, 2023

ACERAGEN, INC.
FORM 10-Q

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Unless otherwise stated or the context requires otherwise, references in this Quarterly Report on Form 10-Q to "Aceragen," the "company," the "Company," "we," "us," or "our" refer to Aceragen, Inc. (formerly known as Idera Pharmaceuticals, Inc.) and its subsidiaries, taken together. The Aceragen logo and other trademarks or service marks of the Company appearing in this Quarterly Report on Form 10-Q are the property of Aceragen, Inc. All other brand names or trademarks are the property of their respective owners.

All share and per share amounts, including the exercise or conversion price of any of our securities, reflect, as applicable, the occurrence of a 1-for-17 reverse split of our common stock that occurred on January 17, 2023.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q ("Form 10-Q") and the documents we incorporate by reference contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). All statements, other than statements of historical fact, included or incorporated in this report regarding, among other things, our cash resources and projected cash runway, financial position, our strategy, strategic alternatives, future operations, clinical trials, the amount and predictability of future revenues, projected costs, fundraising and/or financing plans, prospects, the impacts of the Aceragen Acquisition (as defined below), the impacts of the Reverse Stock Split (as defined below) and the plans and objectives of management are forward-looking statements. The words "believes," "anticipates," "estimates," "plans," "expects," "intends," "may," "could," "should," "potential," "likely," "projects," "continue," "will," "schedule," "would," and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. We cannot guarantee that we will actually achieve the plans, intentions, or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. These forward-looking statements involve known and unknown risks, uncertainties, and other factors, which may be beyond our control, and which may cause the actual results, performance, or achievements of the Company to be materially different from future results, performance, or achievements expressed or implied by such forward-looking statements.

There are a number of important factors that could cause our actual results to differ materially from those indicated or implied by forward-looking statements. These important factors include those set forth under Part I, Item 1A "Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022 which was filed with the Securities and Exchange Commission ("SEC") on April 13, 2023 (the "2022 Form 10-K), in this Quarterly Report on Form 10-Q, and in our other disclosures and filings with the SEC. These factors and the other cautionary statements made in this Quarterly Report on Form 10-Q should be read as being applicable to all related forward-looking statements whenever they appear in this Quarterly Report on Form 10-Q.

In addition, any forward-looking statements represent our estimates only as of the date that this Quarterly Report on Form 10-Q is filed with the SEC and should not be relied upon as representing our estimates as of any subsequent date. All forward-looking statements included in this Quarterly Report on Form 10-Q are made as of the date hereof and are expressly qualified in their entirety by this cautionary notice. We disclaim any intention or obligation to update or revise any forward-looking statement, whether as a result of new information, future events or otherwise, except as may be required by law.

PART I — FINANCIAL INFORMATION

Item 1. Financial Statements.

ACERAGEN, INC.

CONDENSED CONSOLIDATED BALANCE SHEETS
(UNAUDITED)

(In thousands, except share and per share amounts)	March 31, 2023	December 31, 2022*
ASSETS		
Current assets:		
Cash and cash equivalents	$ 2,118	$ 12,044
Accounts receivable	2,203	4,208
Prepaid expenses and other current assets	1,315	1,611
Total current assets	5,636	17,863
Property and equipment, net	4	7
Intangible assets	67,000	71,600
Goodwill	4,629	11,100
Operating lease right-of-use assets	471	537
Other assets	752	—
Total assets	$ 78,492	$ 101,107
LIABILITIES, CONVERTIBLE REDEEMABLE PREFERRED STOCK, AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 3,409	$ 5,200
Accrued expenses	7,198	9,911
Acquisition obligation, net	6,300	6,078
Operating lease liability	223	234
Other current liability	733	—
Total current liabilities	17,863	21,423
Warrant liability	—	2,819
Series X preferred stock liability (includes 5 shares of Series X convertible preferred stock, $0.01 par value per share issued and outstanding as December 31, 2022 - Note 6)	34,800	34,300
Operating lease liability, net of current portion	271	326
Deferred tax liability	3,010	3,283
Other liabilities	—	22
Total liabilities	55,944	62,173
Commitments and contingencies		
Preferred stock, $0.01 par value, Authorized — 5,000,000 shares:		
Series Z convertible redeemable preferred stock (Note 8); Designated — 150,000 shares, Issued and outstanding — 0 and 77,900 shares at March 31, 2023 and December 31, 2022, respectively	—	27,108
Stockholders' equity:		
Preferred stock, $0.01 par value, Authorized — 5,000,000 shares:		
Series A convertible preferred stock; Designated — 1,500,000 shares; Issued and outstanding — 655 shares	—	—
Series B preferred stock; Designated — 200,000 shares; Issued and outstanding — 0 and 62,355 shares at March 31, 2023 and December 31, 2022, respectively	—	1
Common stock, $0.001 par value, Authorized — 140,000,000 shares; Issued and outstanding — 8,346,949 and 3,653,685 shares at March 31, 2023 and December 31, 2022, respectively	8	4
Additional paid-in capital	803,251	770,663
Accumulated deficit	(780,688)	(758,821)
Accumulated other comprehensive income (loss)	(23)	(21)
Total stockholders' equity	22,548	11,826
Total liabilities, convertible redeemable preferred stock, and stockholders' equity	$ 78,492	$ 101,107

* The condensed consolidated balance sheet at December 31, 2022 has been derived from the audited consolidated financial statements at that date.

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

ACERAGEN, INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(UNAUDITED)

(In thousands, except share and per share amounts)	Three Months Ended March 31, 2023	2022
Government contracts revenue	$ 2,470	$ —
Operating expenses:		
Research and development	4,993	1,784
General and administrative	4,920	2,398
Goodwill and intangible assets impairment	11,071	—
Restructuring and other costs	1,300	—
Acquisition-related costs	794	—
Total operating expenses	23,078	4,182
Loss from operations	(20,608)	(4,182)
Other income (expense):		
Interest income (expense), net	(185)	3
Warrant revaluation loss	(874)	—
Series X preferred stock liability loss	(500)	—
Foreign currency exchange and other gain (loss), net	27	1
Loss before income tax benefit	$ (22,140)	$ (4,178)
Income tax benefit	273	—
Net loss	$ (21,867)	$ (4,178)
Net loss per share applicable to common stockholders — Basic and Diluted	$ (2.94)	$ (1.34)
Weighted-average number of common shares used in computing net loss per share applicable to common stockholders — Basic and Diluted	7,448,799	3,111,354
Comprehensive loss:		
Net loss	$ (21,867)	$ (4,178)
Other comprehensive income (loss), net of tax:		
Foreign currency translation	(2)	—
Total other comprehensive (loss) income, net of tax	(2)	—
Total comprehensive loss	$ (21,869)	$ (4,178)

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

ACERAGEN, INC.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(UNAUDITED)

(In thousands)	Three Months Ended March 31, 2023	2022
Cash Flows from Operating Activities:		
Net loss	$ (21,867)	$ (4,178)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation	1,231	545
Foreign currency translation	(9)	—
Goodwill and intangible assets impairment	11,071	—
Warrant revaluation loss	874	—
Series X preferred stock liability loss	500	—
Issuance of common stock for services rendered	15	22
Accretion of discounts on acquisition obligation	222	—
Depreciation and amortization expense	3	4
Deferred tax benefit	(273)	—
Changes in operating assets and liabilities		
Accounts receivable	2,005	—
Prepaid expenses and other assets	449	124
Accounts payable, accrued expenses, and other liabilities	(3,826)	(1,086)
Other	(247)	1
Net cash used in operating activities	(9,852)	(4,568)
Cash Flows from Financing Activities:		
Proceeds from employee stock purchases	—	16
Proceeds from exercise of stock options	88	—
Payments on seller-financed purchases	(170)	—
Other	8	—
Net cash (used in) provided by financing activities	(74)	16
Net decrease in cash and cash equivalents	(9,926)	(4,552)
Cash and cash equivalent, beginning of period	12,044	32,545
Cash and cash equivalents, end of period	$ 2,118	$ 27,993
Supplemental disclosure of cash flow information:		
Cash paid for interest	$ —	$ 5
Supplemental disclosure of non-cash financing and investing activities:		
Offering costs in accrued expenses	$ —	$ 15
Non-cash seller-financed purchases	$ 903	$ —

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

ACERAGEN, INC.

CONDENSED CONSOLIDATED STATEMENTS OF REDEEMABLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY
(UNAUDITED)

	Three Months Ended March 31, 2023									
	Series Z Preferred		Series B Preferred		Common Stock		Additional		Other	Total
(In thousands, except share and per share amounts)	Number of Shares	$0.01 Par Value	Number of Shares	$0.01 Par Value	Number of Shares	$0.001 Par Value	Paid-In Capital	Accumulated Deficit	Comprehensive Income (Loss)	Stockholders' Equity
Balance, December 31, 2022	77,900	$ 27,108	62,355	$ 1	3,653,685	$ 4	$ 770,663	$ (758,821)	$ (21)	$ 11,826
Vesting of restricted stock awards	47	—	—	—	6,386	—	—	—	—	—
Issuance of common stock under equity incentive plan upon vesting of restricted stock units and exercise of options	—	—	—	—	55,891	—	88	—	—	88
Issuance of common stock under equity incentive plan for retention payments	—	—	—	—	43,900	—	456	—	—	456
Issuance of common stock for services rendered	—	—	—	—	1,972	—	15	—	—	15
Conversion of Series Z Preferred Stock to common stock, net of unvested portion, and redemption of Series B Preferred Stock	(77,947)	(27,108)	(62,355)	(1)	4,585,115	4	27,105	—	—	27,108
Reclassification of warrant liability upon conversion of Series Z	—	—	—	—	—	—	3,693	—	—	3,693

Preferred Stock warrants to common stock warrants										
Stock-based compensation	—	—	—	—	—	—	1,231	—	—	1,231
Foreign currency translation	—	—	—	—	—	—	—	—	(2)	(2)
Net loss	—	—	—	—	—	—	—	(21,867)	—	(21,867)
Balance, March 31, 2023	—	$ —	—	$ —	8,346,949	$ 8	$ 803,251	$ (780,688)	$ (23)	$ 22,548

Three Months Ended March 31, 2022

(In thousands, except share and per share amounts)	Series Z Preferred Number of Shares	$0.01 Par Value	Series B Preferred Number of Shares	$0.01 Par Value	Common Stock Number of Shares	$0.001 Par Value	Additional Paid-In Capital	Accumulated Deficit	Other Comprehensive Income (Loss)	Total Stockholders' Equity
Balance, December 31, 2021	—	$ —	—	$ —	3,106,947	$ 3	$ 764,911	$ (735,461)	$ —	$ 29,453
Sale of common stock, net of issuance costs	—	—	—	—	—	—	(15)	—	—	(15)
Issuance of common stock under employee stock purchase plan	—	—	—	—	2,482	—	16	—	—	16
Issuance of common stock under equity incentive plan upon vesting of restricted stock units	—	—	—	—	1,600	—	—	—	—	—
Issuance of common stock for services rendered	—	—	—	—	2,180	—	22	—	—	22
Stock-based compensation	—	—	—	—	—	—	545	—	—	545
Net loss	—	—	—	—	—	—	—	(4,178)	—	(4,178)

Balance, March 31, 2022	—	$ —	—	$ —	3,113,209	$ 3	$ 765,479	$ (739,639)	$ —	$ 25,843

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

ACERAGEN, INC.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)
March 31, 2023

Note 1. Business and Organization

Business Overview

Aceragen, Inc. ("Aceragen" or the "Company") (f/k/a Idera Pharmaceuticals, Inc. ("Idera")), a Delaware corporation, is a clinical-stage biopharmaceutical company with a business strategy originally focused on the clinical development, and ultimately the commercialization, of drug candidates for rare disease indications characterized by small, well-defined patient populations with serious unmet medical needs.

On September 28, 2022 (the "Effective Date"), Idera acquired Aceragen, Inc. and its wholly owned subsidiaries ("Legacy Aceragen"), in accordance with the terms of the Agreement and Plan of Merger, dated as of the Effective Date (the "Merger Agreement"). Legacy Aceragen was a privately-held biotechnology company addressing severe, rare, and orphan pulmonary and rheumatic diseases for which there are limited or no available treatments. The Company acquired Legacy Aceragen as a strategic extension of its rare disease business and focus with the primary objective of further developing Legacy Aceragen's portfolio of rare disease product candidates.

Following the Special Meeting of Stockholders held on January 12, 2023 (the "Special Meeting"), Idera's name was changed to Aceragen, Inc. (the "Merger" and, together with the other transactions contemplated by the Merger Agreement, the "Aceragen Acquisition"). See Note 3, "Business Acquisition," for additional information on the Aceragen Acquisition.

Presently, the Board of Directors of the Company (the "Board") is evaluating several options, including an assignment for the benefit of creditors, wind-down, or liquidation and dissolution.

Liquidity, Financial Condition and Consideration as a Going Concern

The Company follows the provisions of Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 205-40, *Presentation of Financial Statements—Going Concern*, which requires management to assess the Company's ability to continue as a going concern within one year after the date the condensed consolidated financial statements are issued.

The Company has incurred substantial losses and negative cash flows from operations since its inception and had an accumulated deficit of $780.7 million as of March 31, 2023. The Company's cash and cash equivalents balance of $2.1 million as of March 31, 2023 is not sufficient to fund its operations for the one-year period after the date that the condensed consolidated financial statements were issued. These factors raise substantial doubt about the Company's ability to continue as a going concern. The accompanying condensed consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. The condensed consolidated financial statements do not include any adjustments related to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might result from the outcome of this uncertainty.

Funding for Future Operations

Management has evaluated different strategies to obtain the required funding for future operations. Despite its efforts, the Company has been unsuccessful in securing additional capital to fund operations, restructure its outstanding debt and otherwise satisfy creditor obligations. As further discussed in Note 15, on April 28, 2023, the Company's Board of Directors (the "Board") approved a reduction in workforce in which approximately 80% of the Company's employees were terminated, effective immediately. This reduction in workforce required the Company to cease development of ACG-701 (patented formulation of sodium fusidate) for Cystic Fibrosis Pulmonary Exacerbations and ACG-801 (recombinant human acid ceramidase (rhAC)) for Farber Disease. Currently, the Company continues to develop only ACG-701 for Melioidosis subsequent to the reduction in workforce.

As a result, management and the Board are evaluating an assignment for benefit of creditors and other strategic alternatives that may be available, including bankruptcy and liquidation of the Company.

NovaQuest

Pursuant to the Stock and Warrant Purchase Agreement, dated as of March 24, 2021, by and between Legacy Aceragen and NovaQuest Co-Investment Fund XV, L.P. (“NovaQuest”), as amended by that Amendment, dated October 25, 2021, and as such agreement may be amended from time to time (the “Purchase Agreement”), NovaQuest agreed to provide up to $35.0 million in product-based financing to support the development of ACG-801 for Farber disease. The financing was to be provided through (i) $15.0 million in proceeds from the sale of Legacy Aceragen capital stock and warrants to purchase shares of Legacy Aceragen capital stock, and (ii) up to $20.0 million in capital contributions for development funding relating to the treatment of Farber disease (“Capital Contributions”). The Capital Contributions were to be paid by NovaQuest in quarterly installments for Legacy Aceragen’s eligible expenses associated with the development of ACG-801 for Farber disease (“ACG-801 Product”). Prior to the Aceragen Acquisition, Legacy Aceragen received $20.0 million in Capital Contributions, representing the total eligible Capital Contributions provided for under the Purchase Agreement.

Subsequent to the Company’s cessation of development efforts around ACG-801, NovaQuest has alleged that the Company is in breach of the Purchase Agreement and is demanding the return of $35.0 million, plus 12% interest compounded annually and accruing from March 24, 2021 until paid. The Company is currently negotiating with NovaQuest with respect to the Purchase Agreement, however, there is no assurance that such negotiations will be successful.

Reverse Stock Split

On January 17, 2023, the Company effected a 1-for-17 reverse stock split of the Company's outstanding shares of common stock, as approved by the Company’s stockholders at the Special Meeting. All share and per share amounts of common stock, options, warrants, restricted stock, restricted stock units, and conversion ratio of convertible preferred stock and convertible preferred stock warrants in the accompanying condensed consolidated financial statements and notes thereto have been retroactively adjusted for all periods presented to reflect the reverse stock split.

Note 2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying unaudited condensed consolidated financial statements included herein have been prepared by the Company in accordance with U.S. generally accepted accounting principles (“GAAP”) for interim financial information and pursuant to the rules and regulations of the SEC. Accordingly, certain information and footnote disclosures normally included in consolidated financial statements prepared in accordance with GAAP have been condensed or omitted pursuant to such rules and regulations. In the opinion of management, all adjustments, consisting of normal recurring adjustments, and disclosures considered necessary for a fair presentation of interim period results have been included. Interim results for the three months ended March 31, 2023 are not necessarily indicative of results that may be expected for the year ending December 31, 2023. For further information, refer to the consolidated financial statements and footnotes thereto included in the Company’s 2022 Form 10-K filed with the SEC.

Financial Instruments

The fair value of the Company’s financial instruments is determined and disclosed in accordance with the three-tier fair value hierarchy specified in Note 4. The Company is required to disclose the estimated fair values of its financial instruments. As of March 31, 2023 and December 31, 2022, the Company’s financial instruments included cash and cash equivalents, accounts receivable, accounts payable, Acquisition Obligation (defined below), and Series X Preferred Stock and Series Z Preferred Stock Warrant liabilities. The carrying amount of cash and cash equivalents, accounts receivable, and accounts payable approximates fair value due to the short-term maturities of these instruments. The carrying values of the Acquisition Obligation (defined below), Series X Preferred Stock liability and Series Z Preferred Stock Warrants liability are recorded at their estimated fair values. As of March 31, 2023, the Company did not have any other derivatives, hedging instruments or other similar financial instruments.

Concentration of Credit Risk

Financial instruments that subject the Company to significant concentrations of credit risk consist primarily of cash, which, at times, may exceed federally insured limits, and cash equivalents consisting of investments in money market funds managed by a variety of financial institutions. The Company's credit risk is managed by investing in only highly rated money market instruments. As a result, no significant additional credit risk is believed by management to be inherent in the Company's assets and the Company has not experienced any losses in such accounts and believes it is not exposed to any significant risk on such accounts.

Business Combinations

The Company evaluates acquisitions of assets and other similar transactions to assess whether or not the transaction should be accounted for as a business combination or asset acquisition by first applying a screen to determine if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets. If the screen is met, the transaction is accounted for as an asset acquisition. If the screen is not met, further determination is required as to whether or not the Company has acquired inputs and processes that have the ability to create outputs, which would meet the requirements of a business. If determined to be a business combination, the Company accounts for the transaction under the acquisition method of accounting as indicated in ASU 2017-01, *Business Combinations (ASC 805)*, which requires the acquiring entity in a business combination to recognize the fair value of all assets acquired, liabilities assumed, and any non-controlling interest in the acquiree and establishes the acquisition date as the fair value measurement point. Accordingly, the Company recognizes assets acquired and liabilities assumed in business combinations based on the fair value estimates as of the date of acquisition. In accordance with ASC 805, *Business Combinations*, the Company recognizes and measures goodwill as of the acquisition date, as the excess of the fair value of the consideration paid over the fair value of the identified net assets acquired.

Cash and Cash Equivalents

The Company considers all highly liquid investments with maturities of 90 days or less when purchased to be "cash equivalents." Cash and cash equivalents at March 31, 2023 and December 31, 2022 consisted of cash and money market funds.

Accounts Receivable

The U.S. Government accounted for all of the Company's accounts receivable as of March 31, 2023. Accordingly, the Company does not expect any credit losses with respect to its accounts receivable and no credit losses have been incurred to date. Included in accounts receivable at March 31, 2023 is $0.3 million of unbilled receivables which relates to revenue recognized for work that has been performed but the invoicing has not yet occurred as of the reporting date.

Indefinite-Lived Intangible Assets

Indefinite-lived intangible assets consist of In-Process Research and Development ("IPR&D"). The fair values of IPR&D project assets acquired in business combinations are capitalized. The Company generally utilizes the Multi-Period Excess Earning Method to determine the estimated fair value of the IPR&D assets acquired in a business combination. The projections used in this valuation approach are based on many factors, such as relevant market size, the estimated probability of regulatory success rates, anticipated patent protection, expected pricing, expected treated population, and estimated payments (e.g., royalty). The estimated future net cash flows are then discounted to the present value using an appropriate discount rate. These assets are treated as indefinite-lived intangible assets until completion or abandonment of the projects, at which time the assets are amortized over the remaining useful life or written off, as appropriate.

Intangible assets with indefinite lives, including IPR&D, are tested for impairment if impairment indicators arise and, at a minimum, annually. However, an entity is permitted to first assess qualitative factors to determine if a quantitative impairment test is necessary. Further testing is only required if the entity determines, based on the qualitative assessment, that it is more likely than not that an indefinite-lived intangible asset's fair value is less than its carrying amount. Otherwise, no further impairment testing is required. The indefinite-lived intangible asset impairment test consists of a one-step analysis that compares the fair value of the intangible asset with its carrying amount. If the carrying amount of an intangible asset exceeds its fair value, an impairment loss is recognized in an amount equal to that excess. The Company considers many factors in evaluating whether the value of our

intangible assets with indefinite lives may not be recoverable, including, but not limited to, expected growth rates, the cost of equity and debt capital, general economic conditions, our outlook and market performance of the Company's industry and recent and forecasted financial performance.

The Company evaluates indefinite-lived intangible assets for impairment at least annually on October 1 and whenever facts and circumstances indicate that their carrying amounts may not be recoverable. During the three months ended March 31, 2023, management identified an indicator of impairment related to the decrease in the Company's market capitalization. As a result, the Company performed an interim impairment test that resulted in the recognition of an impairment loss of $4.6 million related to IPR&D (see Note 3 and 4 for further discussion).

Goodwill

Goodwill represents the amount of consideration paid in excess of the fair value of net assets acquired as a result of the Company's business acquisitions accounted for using the acquisition method of accounting. The intangible assets acquired represented the fair value of IPR&D which has been recorded on the accompanying condensed consolidated balance sheet as indefinite-lived intangible assets. A deferred tax liability was recorded for the difference between the fair value of the acquired IPR&D and its tax basis which was recognized as goodwill in applying the purchase method of accounting. Goodwill is not amortized and is subject to impairment testing at a reporting unit level on an annual basis or when a triggering event occurs that may indicate the carrying value of the goodwill is impaired. An entity is permitted to first assess qualitative factors to determine if a quantitative impairment test is necessary. Further testing is only required if the entity determines, based on the qualitative assessment, that it is more likely than not that the fair value of the reporting unit is less than its carrying amount.

The Company evaluates goodwill for impairment at least annually on October 1 and whenever facts and circumstances indicate that the carrying amount of the reporting unit is greater than its fair value. During the three months ended March 31, 2023, management identified an indicator of impairment related to the decrease in the Company's market capitalization. As a result, the Company performed an interim impairment test that resulted in the recognition of an impairment loss of $6.5 million related to goodwill (see Note 3 and 4 for further discussion).

Operating Lease Right-of-use Asset and Lease Liability

The Company accounts for leases under ASC 842, Leases. Operating leases are included in "Operating lease right-of-use assets" within the Company's condensed consolidated balance sheets and represent the Company's right to use an underlying asset for the lease term. The Company's related obligation to make lease payments are included in "Operating lease liability" and "Operating lease liability, net of current portion" within the Company's condensed consolidated balance sheets. Operating lease right-of-use ("ROU") assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. As most of the Company's leases do not provide an implicit rate, the Company uses its incremental borrowing rates, which are the rates incurred to borrow on a collateralized basis over a similar term, an amount equal to the lease payments in a similar economic environment. Lease expense for lease payments is recognized on a straight-line basis over the lease term. The ROU assets are tested for impairment according to ASC 360, *Property, Plant, and Equipmen*t ("ASC 360"). Leases with an initial term of 12 months or less are not recorded on the balance sheet and are recognized as lease expense on a straight-line basis over the lease term.

As of March 31, 2023 and December 31, 2022, the Company's operating lease ROU assets and corresponding short-term and long-term lease liabilities primarily relate to its existing Exton, PA facility operating lease, which expires on May 31, 2025. In connection with the Aceragen Acquisition, the Company acquired an operating lease for an office in Basel, Switzerland, which expired on March 31, 2023.

Impairment of Long-Lived Assets

In accordance with ASC 360-10-35, *Impairment or Disposal of Long-Lived Assets*, the Company reviews its long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable (i.e., impaired). Once an impairment is determined, the actual impairment recognized is the difference between the carrying amount and the fair value (less costs to sell for assets to be disposed of) as estimated using one of the following approaches: income, cost, and/or market. Fair value using the income approach is determined primarily using a discounted cash flow model that uses the estimated cash flows associated with the asset or asset group under review, discounted at a rate commensurate with the risk involved. Fair value utilizing the cost approach is determined based on the replacement cost of the asset reduced for,

among other things, depreciation and obsolescence. Fair value, utilizing the market approach, benchmarks the fair value against the carrying amount.

Other Current Liability

In January 2023, the Company entered into a short-term financing arrangement with a third-party vendor to finance insurance premiums. The aggregate amount financed under this agreement was $0.9 million. As of March 31, 2023, the balance of $0.7 million, which is included in “Other current liability’ in the Company’s condensed consolidated balance sheets, is scheduled to be paid in monthly installments through August 2023. Total interest to be incurred under the financing arrangement is not material.

Warrant Liability

The Company accounts for stock warrants as either equity instruments, liabilities or derivative liabilities in accordance with ASC 480, *Distinguishing Liabilities from Equity* (“ASC 480”) and/or ASC 815, *Derivatives and Hedging* (“ASC 815”), depending on the specific terms of the warrant agreement. Freestanding warrants for shares that are potentially redeemable, whereby the Company may be required to transfer assets (e.g. cash or other assets) outside of its control, are classified as liabilities. Liability-classified warrants are recorded at their estimated fair values at each reporting period until they are exercised, terminated, reclassified or otherwise settled. Changes in the estimated fair value of liability-classified warrants are recorded in Warrant Revaluation Gain (Loss) in the Company’s condensed statements of operations. Equity classified warrants are recorded within additional paid-in capital at the time of issuance and not subject to remeasurement.

In connection with the Aceragen Acquisition, a portion of the consideration paid to Legacy Aceragen warrant holders was in the form of warrants to purchase shares of Series Z Preferred Stock (“Series Z Warrants”). Such warrants were classified as liabilities upon issuance and as of December 31, 2022 because the underlying Series Z Preferred Stock is contingently redeemable. During the three months ended March 31, 2023, all of the Company’s liability-classified Series Z Warrants were converted into warrants to purchase common stock and, accordingly, the Series Z Warrant liability was reclassified to stockholders’ equity.

Redeemable Preferred Stock

The Company applies ASC 480 when determining the classification and measurement of its preferred stock. Preferred shares subject to mandatory redemption are classified as liability instruments and are measured at fair value. Conditionally redeemable preferred shares (including preferred shares that feature redemption rights that are either within the control of the holder or subject to redemption upon the occurrence of uncertain events not solely within the Company’s control) are classified as temporary equity. At all other times, preferred shares are classified as stockholders’ equity.

Series X Preferred Stock Liability

In conjunction with the Aceragen Acquisition, the Company evaluated the newly issued Series X Preferred Stock and determined its revised terms represents a sale of future revenues and is classified as a liability under ASC 470, *Debt* and the Company has elected to account for the Series X Preferred Stock liability under the fair value option. The fair value of the Series X Preferred Stock liability represents the present value of estimated future payments, including royalty payments, as well as estimated payments that are contingent upon the achievement of specified milestones. The fair value of the Series X Preferred Stock liability is based on the cumulative probability of the various estimated payments. The fair value measurement is based on significant Level 3 unobservable inputs which are further described in Note 4. Any changes in the fair value of the liability in each reporting period are recognized in the condensed consolidated statements of operations until it is settled. See Note 6 to these condensed consolidated financial statements for further discussion of the Series X Preferred Stock Liability.

Revenue Recognition

The Company recognizes revenue in accordance with ASC 606, *Revenue from Contracts with Customers* ("ASC 606"), which applies to all contracts with customers, except for contracts that are within the scope of other standards, such as leases, insurance, collaboration arrangements and financial instruments. In accordance with ASC 606, the Company recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services.

Government Contract Revenue

Revenues from reimbursable contracts are recognized as costs are incurred, generally based on allowable direct costs incurred during the period, plus allocable overheads together with any recognizable earned fee. The Company uses this output method to measure progress as the customer has access to the development research under these projects and benefits incrementally as research and development activities occur.

See Note 10, "Government Contracts Revenue," of the notes to these condensed consolidated financial statements for discussion of the Company's cost reimbursement contracts.

Customer Concentration Risk

The U.S. Government accounted for all of the Company's revenues for the three months ended March 31, 2023.

Goodwill and Intangible Assets Impairment

The Company incurred total impairment losses of $11.1 million during the three months ended March 31, 2023, consisting of impairment losses of its IPR&D and goodwill totaling $4.6 million and $6.5 million, respectively, as more fully described above.

Restructuring and Other Costs

In connection with the Aceragen Acquisition, the Company determined to restructure its operations and reduce its workforce which resulted in seven positions being eliminated by December 31, 2022, representing approximately 54% of the Company's pre-Aceragen Acquisition employees. As a result of the above restructuring initiatives, the Company incurred total restructuring-related charges of $5.0 million to date, including $1.3 million during the three months ended March 31, 2023 related to severance payments to two former executives which were contingent on obtaining shareholder approval at the Special Meeting, which occurred in January 2023. Such amounts are payable in stock and are included in accrued expenses as of March 31, 2023.

As of March 31, 2023, of the $5.0 million total restructuring-related charges incurred, $3.4 million remain unpaid and are included in accrued expenses in the accompanying condensed consolidated balance sheet. See Note 5.

Acquisition-Related Costs

Acquisition-related costs include direct expenses incurred in connection with the Aceragen Acquisition, as well as integration-related professional fees, employee retention-related benefits, and other incremental costs directly associated to the Aceragen Acquisition. For the three months ended March 31, 2023 acquisition-related costs totaled $0.8 million.

Income Taxes

In accordance with ASC 270, *Interim Reporting*, and ASC 740, *Income Taxes*, the Company is required at the end of each interim period to determine the best estimate of its annual effective tax rate and then apply that rate in providing for income taxes on a current year-to-date (interim period) basis. For the three months ended March 31, 2023, the Company recorded a $0.3 million non-cash income tax benefit due to a reduction in deferred tax liabilities associated with the Company's IPR&D assets acquired in connection with the Aceragen Acquisition following the recognition of an impairment loss on such IPR&D assets (see Note 4) and reevaluation of the realizability of the Company's deferred tax assets. No such income tax benefit (or expense) was recorded during the three months ended March 31, 2022. The Company had no uncertain tax positions as of March 31, 2023 and December 31, 2022.

Net Loss per Common Share Applicable to Common Stockholders

The Company uses the two-class method to compute net income per common share during periods the Company realizes net income and has securities outstanding (e.g., redeemable convertible preferred stock) that entitle the holder to participate in dividends and earnings of the Company. In addition, the Company analyzes the potential dilutive effect of outstanding redeemable convertible preferred stock under the "if-converted" method when calculating diluted earnings per share and reports the more dilutive of the approaches (two class or "if-converted"). The two-class method is not applicable during periods with a net loss, as the holders of the redeemable convertible preferred stock have no obligation to fund losses. The Company also analyzes the potential dilutive effect of outstanding stock options, unvested restricted stock and restricted stock units, and warrants under the treasury stock method (as applicable), during periods of income, or during periods in which income is recognized related to changes in fair value of its liability-classified securities.

New Accounting Pronouncements

From time to time, new accounting pronouncements are issued by the FASB and rules are issued by the SEC that the Company has or will adopt as of a specified date. Unless otherwise noted, management does not believe that any other recently issued accounting pronouncements issued by the FASB or guidance issued by the SEC had, or is expected to have, a material impact on the Company's present or future consolidated financial statements.

Note 3. Business Acquisition

On the Effective Date, and in accordance with the terms of the Merger Agreement, the Company acquired 100% of the outstanding security interests of Legacy Aceragen in a "stock-for-stock" transaction whereby all Legacy Aceragen outstanding equity interests were exchanged for a combination of shares of Company common stock, shares of Series Z Preferred Stock, and shares of the newly designated Series X non-voting preferred stock, par value $0.01 per share ("Series X Preferred Stock"). Under the terms of the Merger Agreement, Legacy Aceragen stockholders received (i) 451,608 shares of the Company's common stock (inclusive of unvested restricted common stock – see Note 12), (ii) 80,656 shares of Series Z Preferred Stock (inclusive of unvested restricted preferred stock – see Note 12) and (iii) five shares of Series X Preferred Stock. In addition, all outstanding options and warrants to purchase Legacy Aceragen common stock were assumed by the Company and converted into stock options and warrants to purchase shares of the Company's common stock and Series Z Preferred Stock on terms substantially identical to those in effect prior to the Aceragen Acquisition, except for adjustments to the underlying number of shares and the exercise price based on the Merger Agreement exchange ratio. The Aceragen Acquisition was unanimously approved by the Board and the board of directors of Legacy Aceragen. The closing of the transaction was not subject to the approval of the Company's stockholders.

Pursuant to the Merger Agreement, at the Special Meeting the Company's stockholders approved, among other matters: (i) the conversion of Series Z Preferred Stock into shares of common stock in accordance with Nasdaq Listing Rule 5635(a) (the "Conversion Proposal") and (ii) a proposal to amend the Company's Restated Certificate of Incorporation to effect a reverse stock split of all of the Company's issued and outstanding shares of common stock (the "Reverse Stock Split Proposal" and, together with the Conversion Proposal, the "Merger Agreement Meeting Proposals").

The transaction was accounted for under the acquisition method of accounting. Under the acquisition method, the total purchase price of the acquisition is allocated to the net tangible and identifiable intangible assets acquired and liabilities assumed based on the fair values as of the date of the acquisition. Consideration paid is comprised of the estimated fair value of various securities issued including the Series Z Preferred Stock, Series X Preferred Stock, stock options, restricted stock and warrants issued to Legacy Aceragen shareholders. The fair value of the consideration totaled approximately $65.6 million, summarized as follows:

(In thousands)		
Common stock issued to Aceragen stockholders	$	2,809
Series Z issued to Aceragen stockholders (Note 8)		25,085
Series X liability in connection with Aceragen Acquisition (Note 6)		31,900
Stock options, restricted stock and warrants allocated to consideration paid		5,822
Total Consideration paid	$	65,616

The Company recorded the assets acquired and liabilities assumed as of the date of the Aceragen Acquisition based on the information available at that date. The following table presents the allocation of the purchase price to the estimated fair values of the assets acquired and liabilities assumed as of the Aceragen Acquisition date:

(In thousands)	
Assets acquired:	
Cash and cash equivalents	$ 5,482
Receivables	1,914
Prepaid expenses and other assets	575
In-process research and development assets	71,600
Goodwill	11,100
	$ 90,671
Liabilities assumed:	
Accounts Payable and accrued expenses	$ 7,886
Acquisition Obligation (Note 7)	7,546
Operating lease liabilities	22
Deferred tax liabilities	9,601
	$ 25,055
Net assets acquired	$ 65,616

The fair value of IPR&D was capitalized as of the Aceragen Acquisition date and accounted for as indefinite-lived intangible assets until completion or disposition of the assets or abandonment of the associated research and development efforts. Upon successful completion of the development efforts, the useful lives of the IPR&D assets will be determined based on the anticipated period of regulatory exclusivity and will be amortized within operating expenses. Until that time, the IPR&D assets will be subject to impairment testing and will not be amortized. The goodwill recorded related to the acquisition is the excess of the fair value of the consideration transferred by the acquirer over the fair value of the net identifiable assets acquired and liabilities assumed at the date of the Aceragen Acquisition. The goodwill recorded is not deductible for tax purposes.

The following summarizes the Company’s indefinite-lived tangible assets acquired in connection with the Aceragen Acquisition and their carrying value as of March 31, 2023 (see Note 4 for further discussion):

(In thousands)	Acquisition Date Fair Value	Impairment	Carrying Value as of March 31, 2023
ACG-701 for Cystic Fibrosis	$ 50,700	$ (2,600)	$ 48,100
ACG-701 for Melioidosis	14,900	—	14,900
ACG-801 for Farber Disease	6,000	(2,000)	4,000
Total in-process research and development costs (IPR&D)	$ 71,600	$ (4,600)	$ 67,000

Intangible asset fair values for the three IPR&D programs were determined using the Multi-Period Excess Earnings Method (“MPEEM”) which is a form of the income approach. Under the MPEEM, the fair value of an intangible asset is equal to the present value of the asset's incremental after-tax cash flows (excess earnings) remaining after deducting the market rates of return on the estimated value of contributory assets (contributory charge) over its remaining useful life. To calculate fair value of acquired IPR&D programs under the MPEEM, the Company uses probability-weighted cash flows discounted at a rate considered appropriate given the significant inherent risks associated with drug development by development-stage companies. Cash flows were calculated based on estimated projections of revenues and expenses related to each program and then reduced by a contributory charge on requisite assets employed. Contributory assets included debt-free working capital, net fixed assets and assembled workforce. Rates of return on the contributory assets were based on rates used for comparable market participants. Cash flows were assumed to extend through the market exclusivity period estimated to be provided by orphan drug designation. The resultant cash flows were then discounted to present value using a weighted-average cost of equity capital for companies with profiles substantially similar to that of each acquired IPR&D program, which the Company believes represents the rate that market participants would use to value the assets. The Company compensated for the phase of development of each program by probability-adjusting its estimation of the

expected future cash flows. The projected cash flows were based on significant assumptions, such as the time and resources needed to complete the development and approval of each IPR&D program, estimates of revenue and operating profit related to the program considering its stage of development, the life of the potential commercialized product and associated risks, including the inherent difficulties and uncertainties in drug development, such as obtaining marketing approval from the FDA and other regulatory agencies, and risks related to the viability of and potential alternative treatments in any future target markets. See Note 4.

Pro Forma Financial Information

The following pro forma financial information reflects the consolidated results of operations of the Company for the three months ended March 31, 2022 as if the Aceragen Acquisition had taken place on January 1, 2021. The unaudited pro forma financial information is not necessarily indicative of the results of operations as they would have been had the transactions been effected on the assumed date.

(In thousands)	March 31, 2022
Net revenues	$ 5,688
Net loss	$ (7,354)

Note 4. Fair Value Measurements

Assets and Liabilities Measured at Fair Value on a Recurring Basis

The Company applies the guidance in ASC 820, *Fair Value Measurement*, to account for financial assets and liabilities measured on a recurring basis. Fair value is measured at the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. As such, fair value is a market-based measurement that is determined based on assumptions that market participants would use in pricing an asset or liability.

The Company uses a fair value hierarchy, which distinguishes between assumptions based on market data (observable inputs) and an entity's own assumptions (unobservable inputs). The guidance requires that fair value measurements be classified and disclosed in one of the following three categories:

- Level 1: Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities;
- Level 2: Quoted prices in markets that are not active or inputs which are observable, either directly or indirectly, for substantially the full term of the asset or liability
- Level 3: Prices or valuation techniques that require inputs that are both significant to the fair value measurement and unobservable (i.e., supported by little or no market activity).

Determining which category an asset or liability falls within the hierarchy requires significant judgment. The Company evaluates its hierarchy disclosures each reporting period. There were no transfers between Level 1, 2 and 3 during the three months ended March 31, 2023.

The table below presents the assets and liabilities measured and recorded in the condensed consolidated financial statements at fair value on a recurring basis at March 31, 2023 and December 31, 2022 categorized by the level of inputs used in the valuation of each asset and liability.

	March 31, 2023			
(In thousands)	Total	Level 1	Level 2	Level 3
Assets				
Cash	$ 500	$ 500	$ —	$ —
Cash equivalents – money market funds	1,618	1,618	—	—
Total assets	$ 2,118	$ 2,118	$ —	$ —
Liabilities				
Series X Preferred Stock liability	$ 34,800	$ —	$ —	$ 34,800
Total liabilities	$ 34,800	$ —	$ —	$ 34,800

(In thousands)	December 31, 2022 Total	Level 1	Level 2	Level 3
Assets				
Cash	$ 3,342	$ 3,342	$ —	$ —
Cash equivalents – money market funds	8,702	8,702	—	—
Total assets	$ 12,044	$ 12,044	$ —	$ —
Liabilities				
Warrant liability	$ 2,819	$ —	$ —	$ 2,819
Series X Preferred Stock liability	34,300	—	—	34,300
Total liabilities	$ 37,119	$ —	$ —	$ 37,119

The Level 1 assets consist of money market funds, which are actively traded daily.

Changes in Level 3 Liabilities Measured at Fair Value on a Recurring Basis

Warrant Liability and Series X Preferred Stock Liability

The reconciliation of the Company's warrant and Series X Preferred Stock liability measured at fair value on a recurring basis using unobservable inputs (Level 3) is as follows:

(In thousands)	Warrant Liability	Series X Preferred Stock Liability
Balance, December 31, 2022	$ 2,819	$ 34,300
Change in fair value	874	500
Reclassification to stockholders' equity (1)	(3,693)	—
Balance, March 31, 2023	$ —	$ 34,800

(1) During the three months ended March 31, 2023, the Company's liability-classified warrants, representing warrants exercisable for Series Z Preferred Stock, were reclassified to stockholders' equity upon conversion of such warrants to warrants exercisable for common stock in January 2023.

Assumptions Used in Determining Fair Value of Liability-Classified Series X Preferred Stock

The fair value of the Series X Preferred Stock represents the present value of estimated future payments that include royalty payments, as well as potential payments contingent upon the Company being awarded a priority review voucher ("PRV"). The Company utilized an income approach and Monte Carlo simulation method to determine the estimated fair value of the Series X Preferred Stock. The inputs used in the valuation approach are based on many factors such as estimated sales proceeds related to the PRV, the relevant market size, the estimated probability of regulatory success rates, anticipated patent protection, expected pricing, expected treated population, sales by region, estimated royalty payments and discount rate.

Assets measured at Fair Value on a Nonrecurring Basis

The Company's non-financial assets, which primarily consist of goodwill and IPR&D assets are not required to be measured at fair value on a recurring basis, and instead are reported at their carrying amount. However, on a periodic basis whenever events or changes in circumstances indicate that their carrying values may not be fully recoverable (and at least annually for goodwill and indefinite-lived intangible assets), non-financial assets are assessed for impairment. If the fair value is determined to be lower than the carrying amount, an impairment charge is recorded to write down the asset to its fair value. As a result of the decrease in the Company's market capitalization during the quarter ended March 31, 2023, the Company determined that a sufficient indicator existed to trigger the performance of an interim impairment analysis for goodwill and IPR&D assets. The IPR&D asset related to ACG-701 for Cystic Fibrosis with a carrying amount of $50.7 million was written down to a fair value of $48.1 million (Level 3 fair value measurement) and the IPR&D asset related to ACG-801 for Farber Disease with a carrying amount of $6.0 million was written down to a fair value of $4.0 million (Level 3 fair value measurement) during the three months ended March 31, 2023. The fair value associated with the IPR&D asset related to ACG-701 for Melioidosis exceeded its carrying value at March 31, 2023. Goodwill with a carrying value of $11.1 million was written down to a fair value of $4.6 million during the three months ended March 31, 2023. The

fair value of the Company's one reporting unit for interim goodwill impairment testing was determined using a market approach. See Note 3.

Note 5. Accrued Expenses

At March 31, 2023 and December 31, 2022, accrued expenses consisted of the following:

($ in thousands)	March 31, 2023	December 31, 2022
Payroll and related costs	$ 339	$ 1,886
Clinical and nonclinical trial expenses	1,576	2,106
Professional and consulting fees	1,041	1,637
Restructuring and other costs (1)	2,882	2,327
Acquisition-related costs	1,144	1,666
Other	216	289
Total accrued expenses	$ 7,198	$ 9,911

(1) Includes $1.3 million of severance due to two former executives payable in stock.

Note 6. Series X Preferred Stock Liability

In connection with the Aceragen Acquisition, the Company issued five shares of Series X Preferred Stock. The shares of Series X Preferred Stock are non-convertible and non-voting and are entitled to discrete development and commercial milestone payments as well as royalty payments on net product sales of ACG-801 for Farber disease. The royalty rates range between low single digits to low double digits and expire, unless terminated earlier, upon the later of the expiration of the last valid claim in the licensed patent rights in such country covering such product and the expiration of data exclusivity in such country for such product. In addition, the payments due to the holders of the Series X shares are secured by substantially all of the assets related to ACG-801.

The Company concluded that the shares of Series X Preferred Stock do not represent a residual interest in the Company and are accounted for as debt. The liabilities associated with the shares of Series X Preferred Stock require the Company to make certain estimates and assumptions, particularly about the achievement of future development and regulatory milestones and future product sales. Such estimates and assumptions are utilized in determining the expected repayment term, accretion of interest expense and classification between current and long-term portions of amounts outstanding. The Company elected to carry the Series X Preferred Stock liability at fair value, and the debt instrument is outside the scope of ASC 480, *Distinguishing Liabilities from Equity*, and thus will be classified as a liability under ASC 470, *Debt*, in the Company's condensed consolidated financial statements. Any changes in the fair value of the liability are recognized in the condensed consolidated statement of operations until it is settled.

Note 7. Acquisition Obligation

In connection with the Aceragen Acquisition, the Company assumed an obligation pursuant to the Arrevus Merger Agreement (as defined below), whereby Legacy Aceragen was obligated to make an aggregate future payment of $7.8 million to the Former Stockholders (as defined below), $6.3 million and $1.5 million of which was originally due in October 2022 and January 2023, respectively (the "Acquisition Obligation"). The estimated fair value of the Acquisition Obligation on the Effective Date was $7.5 million. During the fourth quarter of 2022, $1.5 million of the $7.8 million obligation was paid.

In connection with the closing of the Aceragen Acquisition, Legacy Aceragen entered into a binding term sheet (the "Term Sheet") with the representative of certain former stockholders of Arrevus (the "Former Stockholders"), pursuant to which Legacy Aceragen and the Former Stockholders agreed to defer certain payments owed by Legacy Aceragen to the Former Stockholders under that certain Agreement and Plan of Merger, dated October 18, 2021, by and among Legacy Aceragen, Arrevus, and their respective affiliates (the "Arrevus Merger Agreement"), in an aggregate amount of $6.0 million (the "Deferred Payments") until October 24, 2023. The Deferred Payments bear annual interest at 12% beginning on April 1, 2023. The Company may prepay the Deferred Payments at any time, subject to payment in full in cash of the Deferred Payments, plus accrued interest up until the date of such prepayment. Any prepayment of the Deferred Payments must be made on a pro-rata basis among the holders of the Convertible Notes (as defined below) in proportion to their respective shares of the Deferred Payments;

provided that prior to any such prepayment, the holder of each Convertible Note shall be given written notice thereof and the option to convert the principal balance into shares of common stock pursuant to the terms of the Convertible Note.

Pursuant to the terms of the Term Sheet, on January 31, 2023, the Company issued 12% convertible unsecured promissory notes (the "Convertible Notes") in an aggregate amount of approximately $5.9 million to certain Former Stockholders the Company determined to be accredited investors and 12% unsecured promissory notes (the "Promissory Notes") in an aggregate amount of approximately $0.4 million to certain Former Stockholders the determined to be unaccredited investors (collectively, the Convertible Notes and the Promissory Notes, the "January 2023 Notes").

The January 2023 Notes bear annual interest at 12% beginning April 1, 2023. Under the terms of the Convertible Notes, at the holder's election, any or all of the outstanding principal and accrued interest may be converted into shares of Company's common stock using a conversion price determined by the VWAP (as defined in the Convertible Notes) on the applicable trading market for the fifteen consecutive trading days ending prior to the date the holder provides notice of their intent to convert. The terms of the Convertible Notes provide the Former Stockholders with customary registration rights covering the Common Stock issued following any conversion of the Convertible Notes.

During the period the Term Sheet was in effect, the Company imputed interest expense using the effective interest method based on the difference between the estimated fair value and the notional value. Upon issuance of the January Notes, the Company recognized the remaining unamortized discount on the Acquisition Obligation, resulting in total non-cash charges for the accretion of discounts on the Acquisition Obligation of $0.2 million, which is included in "Interest income (expense), net" within the accompanying condensed consolidated statements of operations and comprehensive loss.

Note 8. Redeemable Convertible Preferred Stock

Series Z Redeemable Preferred Stock

In connection with the Aceragen Acquisition, the Company issued 80,656 shares of Series Z Preferred Stock. The Series Z Preferred Stock did not have voting rights except for voting on specific corporate matters including (i) changes to the rights and preferences of the Series Z Preferred Stock, (ii) issuance of additional Series Z Preferred Stock, and (iii) enter into a fundamental transaction such as a sale of the Company. Certain provisions of the Series Z Preferred Stock are as follows:

- Conversion: Upon obtaining stockholder approval at the Special Meeting, each share of Series Z automatically converted into 58.82 shares of common stock, subject to beneficial ownership limitations.
- Dividends: Series Z Preferred Stock was eligible to participate in any dividends with common stockholders on an as-converted basis
- Liquidation: In the event of the liquidation, dissolution, or winding up of the affairs of the Company (a "Liquidity Event"), prior to stockholder approval at the Special Meeting, the holders of Series Z Preferred Stock would have been entitled to receive a liquidation preference prior to any payment to the holders of common stock.
- Redemption: In the event the Company would have been unable to obtain an affirmative stockholder vote at the Special Meeting to permit conversion, each holder of Series Z Preferred Stock would have been entitled to elect, at the holder's option, to have the shares of Series Z Preferred Stock be redeemed by the Company and equal to the estimated fair value of the Series Z Preferred Stock share at the time of redemption. Due to this redemption feature, as of December 31, 2022, the Series Z Preferred Stock was classified within temporary equity on the consolidated balance sheet.

On January 12, 2023, at the Special Meeting, the Company's stockholders approved the issuance of shares of the Company's common stock upon conversion of the Series Z Preferred Stock in accordance with Nasdaq Listing Rule 5635(a). Following approval, effective January 17, 2023, all 80,656 outstanding shares of Series Z Preferred Stock were automatically converted into 4,744,467 shares (including unvested restricted stock awards which are excluded from stockholders' equity) of the Company's common stock pursuant to the terms of the Series Z

Preferred Stock. Upon conversion, the carrying value of the Series Z Preferred Stock was reclassified to stockholders' equity.

Note 9. Stockholders' Equity

Common and Preferred Stock Warrants

In connection with various financing transactions, the Company has issued warrants to purchase shares of the Company's common stock and preferred stock. The Company accounts for common and preferred stock warrants as equity instruments or liabilities, depending on the specific terms of the warrant agreement.

In connection with the Aceragen Acquisition, the Company issued warrants to Legacy Aceragen warrant holders to purchase shares of its common stock and Series Z Preferred Stock. The Series Z Preferred Stock warrants are liability classified and remeasured at each reporting period until the warrants are exercised, reclassified, expire, or otherwise settled.

The following table summarizes outstanding warrants to purchase shares of the Company's common stock and/or preferred stock as of March 31, 2023 and December 31, 2022:

	Number of Warrants			
Description	March 31, 2023	December 31, 2022	Weighted-Average Exercise Price	Expiration Date
Equity-classified warrants:				
May 2013 warrants	908	908	$ 1.36	None
September 2013 warrants	241	241	$ 1.36	None
February 2014 warrants	128	128	$ 1.36	None
April 2020 Private Placement first closing warrants	178,794	178,794	$ 38.76	Apr 2023
April 2020 Private Placement second closing warrants	80,801	80,801	$ 46.07	Dec 2023
July 2020 Private Placement first closing warrants	162,601	162,601	$ 43.86	Jul 2023
Assumed Legacy Aceragen warrants	915,772	79,596	$ 7.82	Mar 2031
	1,339,245	503,069		
Liability-classified warrants:				
Assumed Legacy Aceragen Series Z Warrants (1)	—	14,215	$ 460.00	Mar 2031
	—	14,215		
Total outstanding	1,339,245	517,284		

The table below is a summary of the Company's warrant activity for the three months ended March 31, 2023.

	Number of Warrants			
	Common Warrants	Series Z Warrants	Total	Weighted-Average Exercise Price (1)
Outstanding at December 31, 2022	503,069	14,215	517,284	$ 17.58
Issued	—	—	—	—
Exercised	—	—	—	—
Expired	—	—	—	—
Conversion	836,176	(14,215)	821,961	7.82
Outstanding at March 31, 2023	1,339,245	—	1,339,245	$ 17.58

(1) During the three months ended March 31, 2023, the Company's Series Z Preferred Stock Warrants were converted into warrants to purchase common stock.

"At-The-Market" Equity Program

In November 2018, the Company entered into an Equity Distribution Agreement (the "ATM Agreement") with JMP Securities LLC ("JMP") pursuant to which the Company may issue and sell shares of its common stock through JMP as its agent. During each of the three months ended March 31, 2023 and 2022, the Company sold no shares of common stock pursuant to the ATM Agreement.

Note 10. Government Contracts Revenue

Government contracts revenue for the three months ended March 31, 2023 consists of revenue from contracts with customers (U.S. government agencies) accounted for in accordance with ASC Topic 606, as more fully described in Note 2.

As of March 31, 2023, the Company had three in-process contracts with various agencies of the U.S. government with a total aggregate contract value of $46.3 million, of which $18.6 million has been used as of March 31, 2023. Of the $27.7 million total contractual value remaining as of March 31, 2023, $27.6 million is related to a contract awarded by Defense Threat Reduction Agency ("DTRA") to develop ACG-701 as a potential medical countermeasure against the pathogen that causes melioidosis, B. Pseudomallei (the "DTRA Award"). The DTRA Award was granted pursuant to an agreement with a consortium management firm ("CMF") with a contractual term through December 2026. While the contractual arrangement is with a CMF, the Company has determined that DTRA is the customer in the arrangement and the contract contains a single performance obligation (ACG-801 development services) which meet the criteria to be recognized over time. Other government contracts are not currently material.

During the three months ended March 31, 2023, the Company recognized government contract revenues of $2.5 million, of which approximately $2.4 million related to the DTRA Award. No such revenues were recognized during the three months ended March 31, 2022. As of March 31, 2023, there were no material amounts of remaining performance obligations that are required to be disclosed.

Note 11. Clinical Funding, Collaboration and License Agreements

Scriptr Collaboration and Option Agreement

In February 2021, the Company entered into a collaboration and option agreement (the "Scriptr Agreement") with Scriptr Global, Inc. ("Scriptr"), pursuant to which (i) the Company and Scriptr conducted a research collaboration utilizing Scriptr Platform Technology to identify, research and develop gene therapy candidates (each, a "Collaboration Candidate") for the treatment, palliation, diagnosis or prevention of (a) myotonic dystrophy type 1 and (b) Friedreich's Ataxia on a Research Program-by-Research Program basis, as applicable, and (ii) the Company was granted an exclusive option, in its sole discretion, to make effective the License Agreement (as defined in the Scriptr Agreement) (the "Scriptr License") for a given Research Program (as defined in the Scriptr Agreement), to make use of Collaboration Candidates and related intellectual property.

The Company incurred approximately $0.3 million in research and development expenses under the Scriptr Agreement during the three months ended March 31, 2022. No such costs were incurred during the three months ended March 31, 2023.

In June 2023, the Company and Scriptr mutually agreed to terminate the Scriptr Agreement and all rights and licenses granted pursuant to the Scriptr Agreement, including the option to make effective the License Agreement (as defined in the Scriptr Agreement), were terminated.

Note 12. Stock-Based Compensation

Equity Incentive and Employee Stock Purchase Plans

As of March 31, 2023, the only equity compensation plans from which the Company may currently issue new awards are the 2022 Equity Plan (defined below) and the 2017 Employee Stock Purchase Plan (as amended to date, the "2017 ESPP").

2022 Stock Incentive Plan

On January 12, 2023, at the Special Meeting, the Company's stockholders approved the Idera Pharmaceuticals, Inc. 2022 Stock Incentive Plan (the "2022 Equity Plan"). The 2022 Equity Plan provides for the issuance of incentive stock options, non-qualified stock options, stock awards, stock units, stock appreciation rights, and other stock-based awards. The 2022 Equity Plan was adopted principally to serve as a successor plan to the Idera Pharmaceuticals, Inc. 2013 Stock Incentive Plan (the "2013 Plan") and to increase the number of shares of the Company's common stock reserved for equity-based awards by an amount equal to the sum of: (i) 1,388,235 shares of Company common stock, plus (ii) 194,456 shares of Company common stock, which is the number of shares of Company common stock reserved for issuance under the 2013 Plan that remained available for grant under the 2013 Plan as of the effective date of the 2022 Equity Plan. In addition, shares of the Company's common stock underlying any outstanding award granted under the 2013 Plan that, following the 2022 Equity Plan effective date, expire, or are terminated, surrendered, or forfeited for any reason without issuance of such shares shall be available for new grants under the 2022 Equity Plan.

As of March 31, 2023, options to purchase a total of 295,000 shares of common stock were outstanding under the 2022 Equity Plan and 1,319,206 remained available for issuance under the 2022 Equity Plan.

2021 Legacy Aceragen Plan

In accordance with the Merger Agreement, the Company assumed and became the sponsor of the Legacy Aceragen's 2021 Stock Incentive Plan, as amended (the "Legacy Aceragen Plan"). Under the Merger Agreement, each Legacy Aceragen option that was outstanding and unexercised immediately prior to the effective time of the Aceragen Acquisition was assumed and converted into and became an option to purchase (i) shares of the Company's common stock (the "Legacy Aceragen Common Options") and (ii) shares of the Company's Series Z Preferred Stock (the "Legacy Aceragen Preferred Options"), each on the same terms and conditions as applied to such options immediately prior to the Aceragen Acquisition as adjusted by the exchange ratio pursuant to the Merger Agreement. No additional awards were permitted to be issued from the Legacy Aceragen Plan as of the effective time of the Aceragen Acquisition.

Following stockholder approval of the Conversion Proposal, and pursuant to the terms of the Merger Agreement, in January 2023, each Legacy Aceragen Preferred Option became exercisable solely for shares of the Company's common stock.

As of March 31, 2023, options to purchase a total of 1,068,004 shares of common stock were outstanding under the Legacy Aceragen Plan.

Other Awards and Inducement Grants

As of March 31, 2023, options to purchase a total of 271,025 and 4,908 shares of common stock were outstanding under the 2013 Plan and the Idera Pharmaceuticals, Inc. 2008 Stock Incentive Plan (the "2008 Plan"), respectively, and 26,447 unvested restricted stock units were outstanding under the 2013 Plan. In addition, as of March 31, 2023, non-statutory stock options to purchase an aggregate of 19,116 shares of common stock were outstanding that were issued outside of approved equity plans to certain employees in 2015 and 2014 pursuant to the Nasdaq inducement grant exception as a material component of new hires' employment compensation.

2017 *Employee Stock Purchase Plan*

The 2017 ESPP is intended to qualify as an "employee stock purchase plan" as defined in Section 423 of the Internal Revenue Code of 1986, as amended, and is intended to encourage our employees to become stockholders of ours, to stimulate increased interest in our affairs and success, to afford employees the

opportunity to share in our earnings and growth and to promote systematic savings by them. The total number of shares of common stock authorized for issuance under the 2017 ESPP is 59,558 shares of common stock, subject to adjustment as described in the 2017 ESPP. As of March 31, 2023, 39,048 shares remained available for issuance under the 2017 ESPP, however, future offering periods have been suspended until further notice.

Accounting for Stock-based Compensation

The Company recognizes non-cash compensation expense for stock-based awards under the Company's equity incentive plans and employee stock purchases under the 2017 ESPP as follows:

- Stock Options: Compensation cost is recognized over an award's requisite service period, or vesting period, using the straight-line attribution method, based on the grant date fair value determined using the Black-Scholes option-pricing model.

- RSUs: Compensation cost for time-based RSUs, which vest over time based only on continued service, is recognized on a straight-line basis over the requisite service period based on the fair value of the Company's common stock on the date of grant. Compensation cost for awards that are subject to market considerations is recognized on a straight-line basis over the implied requisite service period, based on the grant date fair value estimated using a Monte Carlo simulation. Compensation cost for awards that are subject to performance conditions is recognized over the period of time commencing when the performance condition is deemed probable of achievement based on the fair value of the Company's common stock on the date of grant.

- Employee Stock Purchases: Compensation cost is recognized over each plan period based on the fair value of the look-back provision, calculated using the Black-Scholes option-pricing model, considering the 15% discount on shares purchased.

Total stock-based compensation expense attributable to stock-based awards made to employees and directors and employee stock purchases included in operating expenses in the Company's condensed statements of operations for the three months ended March 31, 2023 and 2022 were as follows:

	Three Months Ended March 31,	
(in thousands)	**2023**	**2022**
Stock-based compensation:		
Research and development		
Employee Stock Purchase Plan	$ —	$ 6
Equity Incentive Plans	500	89
	$ 500	$ 95
General and administrative		
Employee Stock Purchase Plan	$ —	$ 2
Equity Incentive Plans	731	448
	$ 731	$ 450
Total stock-based compensation expense	$ 1,231	$ 545

During the three months ended March 31, 2023 and 2022, the weighted average fair market value of stock options granted was $3.49 and $7.14, respectively.

The following weighted average assumptions apply to the options to purchase 321,900 and 11,658 shares of common stock granted to employees during the three months ended March 31, 2023 and 2022, respectively:

	2023	**2022**
Average risk-free interest rate	3.9%	1.3%
Expected dividend yield	—	—
Expected lives (years)	3.1	3.8
Expected volatility	106%	105%
Weighted average exercise price (per share)	$ 5.21	$ 10.20

All options granted during the three months ended March 31, 2023 and 2022 were granted at exercise prices equal to the fair market value of the Company's common stock on the date of grant.

Stock Option Activity

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

	Common Stock Options			
($ in thousands, except per share data)	Number of Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life (in years)	Aggregate Intrinsic Value
Outstanding at December 31, 2022	406,174	$ 83.00	6.1	$ 102
Granted	321,900	5.21		
Conversion of preferred stock options to common stock options	994,399	6.91		
Exercised	(3,458)	2.21		
Forfeited	(43,565)	7.94		
Expired	(17,397)	2.21		
Outstanding at March 31, 2023 [(1)]	1,658,053	$ 25.26	8.2	$ 20
Exercisable at March 31, 2023	593,192	$ 57.65	6.5	$ 10

	Preferred Stock Options			
($ in thousands, except per share data)	Number of Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life (in years)	Aggregate Intrinsic Value
Outstanding at December 31, 2022	17,522	$ 397.02	9.1	$ 1,073
Exercised	(617)	130.00		
Conversion of preferred stock options to common stock options	(16,905)	406.76		
Outstanding at March 31, 2023 [(1)]	—	$ —	—	$ —
Exercisable at March 31, 2023	—	$ —	—	$ —

(1) Includes both vested stock options as well as unvested stock options for which the requisite service period has not been rendered but that are expected to vest based on achievement of a service condition.

As of March 31, 2023, there was $4.2 million of unrecognized compensation cost related to unvested options, which the Company expects to recognize over a weighted average period of 2.9 years.

Restricted Stock Unit Activity

The following table summarizes restricted stock unit activity for the three months ended March 31, 2023:

	Time-based Awards		Market/Performance-based Awards	
	Number of Shares	Weighted-Average Grant Date Fair Value	Number of Shares	Weighted-Average Grant Date Fair Value
Nonvested shares at December 31, 2022	19,096	$ 10.73	29,814	$ 26.14
Granted	—	—	—	—
Cancelled	(294)	—	(6,030)	—
Vested	(1,601)	—	(14,538)	—
Nonvested shares at March 31, 2023	17,201	$ 7.54	9,246	$ 26.14

As of March 31, 2023, remaining unrecognized compensation expense related to the Company's outstanding RSUs was immaterial.

Restricted Stock Activity

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

	Number of Shares	
	Common Stock	Series Z
Nonvested shares at December 31, 2022	15,432	2,756
Granted	—	—
Conversion of preferred stock RSAs to common stock RSAs	75,471	(1,283)
Cancelled	(7,962)	(1,426)
Vested	(6,386)	(47)
Nonvested shares at March 31, 2023	76,555	—

Note 13. Related Party Transactions

Pillar Investment Entities

Youssef El Zein, a member of the Company's Board until his resignation in October 2017, is a director and controlling stockholder of Pillar Invest Corporation ("Pillar Invest"), which is the general partner of Pillar Pharmaceuticals I, L.P., Pillar Pharmaceuticals II, L.P., Pillar Pharmaceuticals III, L.P., Pillar Pharmaceuticals IV, L.P., Pillar Pharmaceuticals V, L.P., Pillar 6, Pillar 7 and Pillar Partners (collectively, the "Pillar Investment Entities"). As of March 31, 2023, the Pillar Investment Entities beneficially owned 985,204 shares of the Company's common stock.

As of March 31, 2023, the Pillar Investment Entities held (i) warrants to purchase up to 178,794 shares of the Company's common stock at an exercise price of $38.76 per share, (ii) warrants to purchase up to 162,601 shares of the Company's common stock at an exercise price of $43.86 per share, and (iii) warrants to purchase up to 80,801 shares of the Company's common stock at an exercise price of $46.07 per share.

NovaQuest

Ron Wooten, a member of the Company's Board, is a member of the investment committee of NQ POF V GP, Ltd. ("NovaQuest GP"), which is the general partner of NovaQuest.

In connection with the Aceragen Acquisition, NovaQuest was issued five shares of Series X Preferred Stock. In addition, all outstanding warrants to purchase Legacy Aceragen common stock held by NovaQuest immediately prior to the Aceragen Acquisition were assumed by the Company and converted into warrants to purchase shares of the Company's common stock and Series Z Preferred Stock on terms substantially identical to those in effect prior to the Aceragen Acquisition, except for adjustments to the underlying number of shares and the exercise price based on the Merger Agreement exchange ratio. Following the Conversion Approval, warrants held by NovaQuest to purchase 14,115 shares of Series Z Preferred Stock were automatically converted into warrants to purchase 830,294 shares of the Company's common stock.

As of March 31, 2023, NovaQuest held five shares of Series X Preferred Stock and warrants to purchase 909,326 shares of the Company's common stock.

Board Fees Paid in Stock

Pursuant to the Company's director compensation program, in lieu of director board and committee fees of less than $0.1 million incurred during the three months ended March 31, 2022, the Company issued 2,420 shares of common stock to a director. No shares were issued in lieu of director board and committee fees incurred during the three months ended March 31, 2023. Director board and committee fees are paid in arrears and the number of shares issued was calculated based on the market closing price of the Company's common stock on the issuance date.

Note 14. Net Loss per Common Share

During periods the Company realizes net income, it uses the two-class method to compute net income per common share and has securities outstanding (redeemable convertible preferred stock) that entitle the holder to participate in dividends and earnings of the Company. In addition, the Company analyzes the potential dilutive effect of outstanding redeemable convertible preferred stock under the "if-converted" method when calculating diluted earnings per share and reports the more dilutive of the approaches (two class or "if-converted"). During each of the three months ended March 31, 2023 and 2022, the two-class method was not applicable as the Company incurred a net loss and holders of the redeemable convertible preferred stock have no obligation to fund losses.

The Company also analyzes the potential dilutive effect of stock options, unvested restricted stock and restricted stock units, and warrants under the treasury stock method (as applicable), during periods of income, or during periods in which income is recognized related to changes in fair value of its liability-classified securities.

During periods the Company realizes net loss, basic and diluted net loss per common share applicable to common stockholders is calculated by dividing net loss applicable to common stockholders by the weighted-average number of shares of common stock outstanding during the period, without consideration of common stock equivalents. The Company’s potentially dilutive shares, which include outstanding stock option awards, unvested restricted stock and restricted stock units, warrants and convertible preferred stock, are considered to be common stock equivalents and are only included in the calculation of diluted net loss per share when their effect is dilutive.

For the three months ended March 31, 2023 and 2022, diluted net loss per common share applicable to common stockholders was the same as basic net loss per common share applicable to common stockholders as the effects of the Company’s potential common stock equivalents were antidilutive.

Total antidilutive securities excluded from the calculation of diluted net loss per share for the three months ended March 31, 2023 and 2022 were as follows:

	Three Months Ended March 31,	
	2023	2022
Common stock options	1,658,053	283,526
Restricted stock units and restricted stock awards	103,002	32,253
Common stock warrants	1,339,245	513,658
Convertible preferred stock	14	14
Total	3,100,314	829,451

Note 15. Subsequent Events

The Company considers events or transactions that occur after the balance sheet date but prior to the issuance of the condensed consolidated financial statements to provide additional evidence relative to certain estimates or to identify matters that require additional disclosure. In some instances, such subsequent events may require retroactive adjustment to information reported at the balance sheet date.

Cost-reduction Plan Implementation and Reduction in Workforce

On April 28, 2023, the Board approved a reduction in workforce (the “Reduction”) in which approximately 80% of the Company’s employees were terminated, effective immediately, in an effort to reduce operating costs. This follows the previously disclosed approval by the Board, on April 13, 2023, of certain cost-cutting measures, including the furlough of approximately 46% of the Company’s workforce and the deferral of base salaries in amounts that exceed $200,000, effective as of April 5, 2023.

In connection with the Reduction, the Company incurred aggregate restructuring charges in the second quarter of 2023 of approximately $4.6 million related to severance payments and other employee-related costs. The Company may also incur additional costs not currently contemplated due to events that may occur as a result of, or that are associated with, the Reduction.

Nasdaq Delisting Notice and Public Shell Inquiry

On May 24, 2023, the Company received a notice (the "Notice") from the Nasdaq Listing Qualifications Department (the "Staff"), stating that because the Company had not yet filed its Quarterly Report on Form 10-Q for the three months ended March 31, 2023, the Company was not in compliance with Nasdaq Listing Rule 5250(c)(1). Nasdaq Listing Rule 5250(c)(1) requires listed companies to timely file all required periodic financial reports with the SEC. The Notice had no immediate effect on the listing of the Company's common stock. Subsequent to receiving the Notice, the Company received an inquiry from Staff noting concerns regarding the Company's potential to be a public shell company and requesting information to assist the Staff in its analysis in determining whether Nasdaq deems the Company to be a public shell. The Company has responded to the Staff's inquiry, which remains ongoing.

Collaboration with Scriptr

In June 2023, the Company and Scriptr mutually agreed to terminate the Scriptr Agreement and all rights and licenses granted pursuant to the Scriptr Agreement, including the option to make effective the License Agreement (as defined in the Scriptr Agreement), were terminated. The termination of the Scriptr Agreement is not expected to have a material effect on the Company's condensed consolidated financial statements.

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with:

- *our unaudited condensed consolidated financial statements and accompanying notes included in Part I, Item 1 of this Quarterly Report on Form 10-Q; and*
- *our audited consolidated financial statements and accompanying notes included in the 2022 Form 10-K, as well as the information contained under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our 2022 Form 10-K.*

In addition to historical information, this discussion and analysis contains forward-looking statements that are subject to risks and uncertainties, including those discussed in the section titled "Risk Factors," set forth in Item 1A of our 2022 Form 10-K and this Quarterly Report on Form 10-Q, that could cause actual results to differ materially from historical results or anticipated results.

Prior to January 17, 2023, we were known as Idera Pharmaceuticals, Inc. On September 28, 2022 we completed the Aceragen Acquisition, whereby we acquired all of the outstanding equity interests in Aceragen, Inc., a private company, as further described below. In connection with the Aceragen Acquisition and related transactions, we changed our name to Aceragen, Inc. Unless the context indicates otherwise, references in this section to the "Company," "Aceragen," "Idera," "we," "us," "our" and similar terms refer to Aceragen, Inc. (f/k/a Idera Pharmaceuticals, Inc.) and our consolidated subsidiaries. References to "Legacy Aceragen" refer to Aceragen, Inc. and its subsidiaries prior to the consummation of the Aceragen Acquisition.

Overview

We are a clinical-stage biopharmaceutical company with a business strategy focused on the clinical development, and ultimately the commercialization, of drug candidates for rare disease indications characterized by small, well-defined patient populations with serious unmet medical needs.

Recent Developments

Cost-reduction Plan Implementation and Reduction in Workforce

On April 28, 2023 (the "Effective Date"), our Board approved a reduction in workforce (the "Reduction") in which approximately 80% of the Company's employees were terminated, effective immediately, in an effort to reduce operating costs. This follows the previously disclosed approval by the Board of certain cost-cutting measures, including the furlough of approximately 46% of the Company's workforce and the deferral of base salaries, as disclosed in our 2022 Form 10-K, which was filed with the SEC on April 13, 2023. This reduction in workforce required the Company to cease development of ACG-701 (patented formulation of sodium fusidate) for Cystic Fibrosis Pulmonary Exacerbations and ACG-801 (recombinant human acid ceramidase (rhAC)) for Farber Disease The Company continues to develop only ACG-701 for Melioidosis subsequent to the reduction in workforce.

Pursuant to the Stock and Warrant Purchase Agreement, dated as of March 24, 2021, by and between Legacy Aceragen and NovaQuest Co-Investment Fund XV, L.P. ("NovaQuest"), as amended by that Amendment, dated October 25, 2021, and as such agreement may be amended from time to time (the "Purchase Agreement"), NovaQuest agreed to provide up to $35.0 million in product-based financing to support the development of ACG-801 for Farber disease. The financing was to be provided through (i) $15.0 million in proceeds from the sale of Legacy Aceragen capital stock and warrants to purchase shares of Legacy Aceragen capital stock, and (ii) up to $20.0 million in capital contributions for development funding relating to the treatment of Farber disease ("Capital Contributions"). The Capital Contributions were to be paid by NovaQuest in quarterly installments for Legacy Aceragen's eligible expenses associated with the development of ACG-801 for Farber disease ("ACG-801 Product"). Prior to the Aceragen Acquisition, Legacy Aceragen received $20.0 million in Capital Contributions, representing the total eligible Capital Contributions provided for under the Purchase Agreement.

Subsequent to the Company's cessation of development efforts around ACG-801, NovaQuest has alleged that the Company is in breach of the Purchase Agreement and is demanding the return of $35.0 million, plus 12% interest compounded annually and accruing from March 24, 2021 until paid. The Company is currently negotiating with NovaQuest with respect to the Purchase Agreement, however, there is no assurance that such negotiations will be successful.

Reverse Stock Split and Corporate Name Change

Following approval of the Reverse Stock Proposal (as defined below), our Board approved a one-for-seventeen (1:17) reverse split of our issued and outstanding shares of common stock (the "Reverse Stock Split"). On January 17, 2023, we filed with the Secretary of State of the State of Delaware a Certificate of Amendment to our Restated Certificate of Incorporation (the "Certificate of Amendment") to effect the Reverse Stock Split and the Company Name Change (as defined below). The Reverse Stock Split became effective as of 4:59 p.m. Eastern Time on January 17, 2023. As a result of the effectiveness of the Reverse Stock Split, every 17 shares of our issued and outstanding common stock were automatically combined, converted, and changed into one share of our common stock, without any change in the number of authorized shares or the par value per share. In addition, a proportionate adjustment was made to the per share exercise price and the number of shares issuable upon the exercise of all outstanding stock options, restricted stock units, and warrants to purchase shares of common stock and the number of shares reserved for issuance pursuant to our equity incentive compensation plans.

Also on January 17, 2023, and in connection with the previously-announced merger between Legacy Aceragen and us, our Board approved a change in name from "Idera Pharmaceuticals, Inc." to "Aceragen, Inc." (the "Company Name Change"), as reflected in the Certificate of Amendment. The Company Name Change became effective as of 4:59 p.m. Eastern Time on January 17, 2023.

Conversion of Series Z Non-Voting Convertible Preferred Stock

Following approval of the Conversion Proposal (as defined below), effective January 17, 2023 at 5:00 p.m. Eastern Time, all 80,656 outstanding shares of our Series Z Preferred Stock were automatically converted into 4,744,467 shares of our common stock pursuant to the terms of the Series Z Preferred Stock (the "Series Z Preferred Stock Conversion").

Nasdaq Delisting Notice and Public Shell Inquiry

On May 24, 2023, we received a notice (the "Notice") from The Nasdaq Stock Market LLC ("Nasdaq") stating that because the Company had not yet filed this Quarterly Report on Form 10-Q, we are not in compliance with Nasdaq Listing Rule 5250(c)(1). Nasdaq Listing Rule 5250(c)(1) requires listed companies to timely file all required periodic financial reports with the SEC. The Notice had no immediate effect on the listing of the Company's common stock on The Nasdaq Global Market and stated that we had until July 24, 2023 to submit to Nasdaq a plan to regain compliance with the Nasdaq Listing Rules.

Subsequent to receiving the Notice, the Company received an inquiry from the staff of the Nasdaq (the "Staff") noting concerns regarding the Company's potential to be a public shell company and requesting information to assist the Staff in its analysis in determining whether Nasdaq deems the Company to be a public shell. The Company has responded to the Staff's inquiry, which remains ongoing.

Clinical Development

In light of the cost reduction plan implementation and reduction in workforce discussed above, post April 28, 2023, we are only developing ACG-701 to treat Melioidosis at this time. However, we believe that ACG-701 can be developed to treat CF PEx and melioidosis, and ACG-801 to treat Farber disease, each of which is discussed in greater detail in our 2022 Form 10-K filed on April 13, 2023.

Collaborative Alliances and Clinical Funding Arrangements

Our current collaborative alliances and clinical funding arrangements include agreements with the Cystic Fibrosis Foundation and DTRA, each described under the caption “Item 1. Business — Collaborative Alliances” in our 2022 Form 10-K.

Business Acquisition

On September 28, 2022 (the “Acquisition Date”), in accordance with the terms of an Agreement and Plan of Merger (the “Merger Agreement”), we acquired 100% of the outstanding security interests of Legacy Aceragen in a “stock-for-stock” transaction, whereby all Legacy Aceragen outstanding equity interests were exchanged for a combination of shares of our common stock, shares of Series Z preferred stock, par value $0.01 per share (“Series Z Preferred Stock”), and shares of the newly-designated Series X non-voting preferred stock, par value $0.01 per share (“Series X Preferred Stock”) (such acquisition, the “Aceragen Acquisition”). Under the terms of the Merger Agreement, Legacy Aceragen stockholders received (i) 451,608 shares of our common stock (inclusive of shares subject to repurchase), (ii) 80,656 shares of Series Z Preferred Stock (inclusive of shares subject to repurchase), and (iii) five shares of Series X Preferred Stock. In addition, all outstanding options and warrants to purchase Legacy Aceragen common stock were converted into stock options and warrants to purchase shares of our common stock and Series Z Preferred Stock on terms substantially identical to those in effect prior to the Aceragen Acquisition, except for adjustments to the underlying number of shares and the exercise price based on the Merger Agreement exchange ratio.

Pursuant to the Merger Agreement, we held a Special Meeting of Stockholders’ on January 12, 2023 (the “Special Meeting”) at which our stockholders approved, among other matters: (i) the conversion of Series Z Preferred Stock into shares of common stock in accordance with Nasdaq Listing Rule 5635(a) (the “Conversion Proposal”) and (ii) a proposal to amend our Charter to effect a reverse stock split of all of the Company’s issued and outstanding shares of common stock (the “Reverse Stock Split Proposal” and, together with the Conversion Proposal, the “Merger Agreement Meeting Proposals”).

Results of Operations

Three Months Ended March 31, 2023 and 2022

Overview

During the three months ended March 31, 2023, our loss from operations totaled $20.6 million, a 393% increase compared to a loss from operations of $4.2 million for the three months ended March 31, 2022.

Prior to the Aceragen Acquisition, all our revenues had been from collaboration and license agreements, although we did not generate any such revenue in 2022 and have received no revenues from the sale of commercial products. Following the Aceragen Acquisition, all of our revenues have been derived from U.S. government contracts. Additionally, during the three months ended March 31, 2022, general and administrative expenses comprised the majority of our total operating expenses as we had terminated our ILLUMINATE development program in December 2021 and were focused on strategic alternatives (i.e., Aceragen Acquisition). During the three months ended March 31, 2023, while research and development expenses increased resulting from the clinical programs acquired in connection with the Aceragen Acquisition, general administrative expenses, goodwill and intangible assets impairment and restructuring costs comprised the majority of our total operating expenses.

The following summarizes the components of loss from operations, as discussed further below:

	Three months ended March 31,			
($ in thousands)	2023	2022	$ Change	% Change
Government contracts revenue	$ 2,470	$ —	$ 2,470	100%
Operating expenses:				
Research and development	4,993	1,784	3,209	180%
General and administrative	4,920	2,398	2,522	105%
Goodwill and intangible assets impairment	11,071	—	11,071	100%
Restructuring and other costs	1,300	—	1,300	100%
Acquisition-related costs	794	—	794	100%
Total operating expenses	$ 23,078	$ 4,182	$ 18,896	452%
Loss from operations	$ (20,608)	$ (4,182)	$ (16,426)	393%

Government Contracts Revenue

In connection with the Aceragen Acquisition, we assumed certain U.S. government contracts. Revenues from reimbursable contracts are recognized as costs are incurred, generally based on allowable direct costs incurred during the period, plus allocable overheads together with any recognizable earned fee.

Government contracts revenue for the three months ended March 31, 2023 totaled $2.5 million of which approximately $2.4 million related to a contract assumed in the Aceragen Acquisition funded by the Department of Defense's DTRA to develop ACG-701 as a potential medical countermeasure against the pathogen that causes melioidosis, B. Pseudomallei. This contract is expected to further fund clinical and regulatory development of ACG-701 up to an additional $27.7 million. Our other government contracts are not currently significant to our operations and not expected to be material in the future. We did not generate any government contracts revenue for the three months ended March 31, 2022.

Research and Development Expenses

For each of our research and development programs, we incur both direct and indirect expenses. We track direct research and development expenses by program, which may include internal personnel costs and other third-party costs such as contract research, consulting and clinical trial and manufacturing costs. We do not allocate indirect research and development expenses, which may include regulatory, laboratory (equipment and supplies), personnel, facility, and other overhead costs (including depreciation and amortization), to specific programs.

During the three months ended March 31, 2023, our overall research and development expenses increased by 180%, as compared to 2022, primarily due to external development costs associated with the development of ACG-701 and ACG-801, programs that were acquired in connection with the Aceragen Acquisition in the third

quarter of 2022. In the table below, research and development expenses are set forth in the following categories: (i) ACG-701 (REPRIEVE Study (CF PEx)) external development expense, (ii) ACG-701 (TERRA Study (Melioidosis)) external development expense, (iii) ACG-801 (Farber disease) external development expense, (iv) Tilsotolimod (IMO-2125), and (v) other drug development expenses.

($ in thousands)	Three months ended March 31, 2023	2022	$ Change	% Change
ACG-701 development expense				
REPRIEVE Study (CF PEx)	$ 1,318	$ —	$ 1,318	100%
TERRA Study (Melioidosis)	1,572	—	1,572	100%
Subtotal	$ 2,890	$ —	$ 2,890	100%
ACG-801 development expense (Farber disease)	557	—	557	100%
Tilsotolimod (IMO-2125) development expense	—	724	(724)	(100)%
Other drug development expense	1,547	1,060	487	46%
Total research and development expenses	$ 4,994	$ 1,784	$ 3,210	180%

ACG-701 Development Expenses

These expenses are comprised of expenses we incurred in connection with the development of ACG-701 for CF PEx and Melioidosis, including our REPRIEVE and TERRA Studies, and include external development expenses incurred with contract research organizations, contract development and manufacturing organizations, subcontractors, and other third-party vendors. In addition, these expenses include salary costs, but exclude other internal personnel-related costs, such as stock-based compensation and other benefits, and overhead expenses.

We acquired the ACG-701 development program in connection with the Aceragen Acquisition and began to incur program-related expenses following the Acquisition Date.

ACG-801 Development Expenses

These expenses are comprised of expenses we incurred in connection with the development of ACG-801 for Farber disease, including our previously anticipated ADVANCE Study, which has been halted as a result of our financial position. Such expenses include external development expenses incurred with contract research organizations, contract development and manufacturing organizations, subcontractors, and other third-party vendors. In addition, these expenses include salary costs, but exclude other internal personnel-related costs, such as stock-based compensation and other benefits, and overhead expenses.

We acquired the ACG-801 development program in connection with the Aceragen Acquisition and began to incur program-related expenses following the Acquisition Date. Accordingly, no such program-related costs were incurred during the three months ended 2022. As a result of our financial condition, we have halted further development of ACG-801 and do not expect to continue to incur significant additional development expenses related to ACG-801.

Tilsotolimod (IMO-2125) Development Expenses

These expenses include external expenses we have incurred in connection with the development of tilsotolimod, as part of our ILLUMINATE development program, which we discontinued in December 2021. All significant study-related activities concluded during 2022 and we did not incur any expenses during the three months ended March 31, 2023 related to tilsotolimod nor anticipate incurring additional expenses in future periods.

Other Drug Development Expenses

These expenses primarily include internal costs, such as salary and other personnel-related costs and overhead expenses not allocated to a specific development program. The increase in other drug development expenses during the three months ended March 31, 2023, as compared to 2022, was primarily due to additional personnel-related costs resulting from employees acquired in connection with the Aceragen Acquisition.

General and Administrative Expenses

General and administrative expenses consist primarily of payroll, stock-based compensation expense, consulting fees and professional legal fees associated with our patent applications and maintenance, our corporate regulatory filing requirements, our corporate legal matters, and our business development initiatives.

For the three months ended March 31, 2023 and 2022, general and administrative expenses totaled $4.9 million and $2.4 million, respectively. The increase in general and administrative expenses during the three months ended March 31, 2023, as compared to the 2022 period, was primarily due to increases in: (i) personnel costs related to the acquisition of Legacy Aceragen employees (including salaries, stock-based compensation and bonuses), (ii) professional and consulting fees (including accounting and legal costs), and (iii) other overhead costs.

Goodwill and Intangible Assets Impairment

The Company incurred total impairment losses of $11.1 million during the three months ended March 31, 2023, consisting of impairment losses of its IPR&D intangible assets and Goodwill totaling $4.6 million and $6.5 million, respectively, as more fully described above in Note 2 to the condensed consolidated financial statements appearing elsewhere in this Form 10-Q.

Restructuring and Other Costs

In connection with the Aceragen Acquisition, the Company determined to restructure its operations and reduce its workforce which resulted in seven positions being eliminated by December 31, 2022, representing approximately 54% of the Company's pre-Aceragen Acquisition employees. As a result of the above restructuring initiatives, the Company incurred restructuring-related charges of $1.3 million during the three months ended March 31, 2023 related to severance due to two former executives which were contingent on obtaining shareholder approval at the Special Meeting. Such amounts are payable in stock and are included in accrued expenses as of March 31, 2023. No such expenses were incurred during the 2022 period.

Acquisition-related Costs

Acquisition-related costs consist of charges for transaction, integration-related professional fees, retention bonuses and other incremental costs directly related to these activities.

Acquisition-related costs for the three months ended March 31, 2023 totaled $0.8 million. All acquisition-related costs related to the Aceragen Acquisition and primarily consisted of legal and professional fees and employee retention-related benefits directly associated with the Aceragen Acquisition. No such costs were incurred during the 2022 period.

Interest Income (Expense), net

Interest expense, net of interest income (which included non-cash charges for accretion of discounts on the Acquisition Obligation of approximately $0.2 million), for the three months ended March 31, 2023 totaled $0.2 million. Interest income, net of interest expense, for the three months ended March 31, 2022 was not material. The increase in interest expense, net during the 2023 period was primarily due to accretion of the discount recorded on the Aceragen Obligation in connection with accounting for the Aceragen Acquisition. Amounts may fluctuate from period to period due to changes in average investment balances (including composition of investments), money market funds classified as cash equivalents, and changes in outstanding debt balances.

Warrant Revaluation Loss

During the three months ended March 31, 2023, we recorded a non-cash warrant revaluation loss of approximately $0.9 million. We did not record any non-cash warrant revaluation gain or loss during the 2022 period. The non-cash loss for the three months ended March 31, 2023 related to an increase in the fair value of our liability-classified warrants assumed in connection with the Aceragen Acquisition as of immediately prior to the derecognition of the liability upon reclassification of the warrants to stockholders' equity in January 2023. Such increase in fair value from January 1, 2023 through the date of reclassification on January 17, 2023 was primarily driven by an increase in our stock price during the period.

Series X Preferred Stock Liability Loss

During the three months ended March 31, 2023, we recorded a non-cash Series X Preferred Stock liability loss of approximately $0.5 million related to the change in fair value of our liability-classified Series X Preferred Stock, which was issued in connection with the Aceragen Acquisition in September 2022. No such gain or loss was recorded during the three months ended March 31, 2022. The increase in fair value of our liability-classified Series X Preferred Stock during the three months ended March 31, 2023 was primarily driven by the passage of time and resulting decrease in the expected term.

Foreign Currency Exchange and Other Gain (Loss), net

During each of the three months ended March 31, 2023 and 2022, we recorded a net foreign currency exchange and other loss of less than $0.1 million. Such gains and losses, net, are not material to our business and not expected to be material in the foreseeable future.

Income Tax Benefit

During the three months ended March 31, 2023, we recorded a $0.3 million non-cash income tax benefit related to the reduction in deferred tax liabilities associated with our IPR&D assets acquired in connection with the Aceragen Acquisition following the recognition of an impairment loss on such IPR&D assets and reevaluation of the realizability of our deferred tax assets.

There was no income tax benefit or expense recorded during the three months ended March 31, 2022.

Net Loss Applicable to Common Stockholders

As a result of the factors discussed above, our basic and diluted net loss applicable to common stockholders for the three months ended March 31, 2023 was $21.9 million, or $2.94 per basic and diluted share, as compared to net loss of $4.2 million for the three months ended March 31, 2022, or $1.34 per basic and diluted share.

Financial Condition, Liquidity and Capital Resources

Financial Condition

As of March 31, 2023, we had an accumulated deficit of $780.7 million. To date, substantially all of our revenues have been from collaboration and license agreements and a contract with the U.S. government that we assumed in connection with the Aceragen Acquisition, and we have received no revenues from the sale of commercial products.

We have devoted substantially all of our efforts to research and development, including clinical trials, and we have not completed development of any commercial products. Our research and development activities, together with our general and administrative expenses, are expected to continue to result in substantial operating losses for the foreseeable future. These losses, among other things, have had and will continue to have an adverse effect on our stockholders' equity, total assets and working capital. Due to the numerous risks and uncertainties associated with developing drug candidates, and if approved, commercial products, we are unable to predict the extent of any future losses, whether or when any of our drug candidates will become commercially available or when we will become profitable, if at all.

Liquidity and Capital Resources

Overview

We require cash to fund our operating expenses and to make capital expenditures. Historically, we have funded our cash requirements primarily through the following:

(i) sale of common stock, preferred stock and future tranche rights and warrants (including pre-funded warrants);

(ii) exercise of warrants;

(iii) debt financing, including capital leases;

(iv) license fees, research funding and milestone payments under collaborative and license agreements, and clinical funding arrangements, including reimbursements under U.S. Government funded programs; and

(v) interest income.

SVB

On March 10, 2023, Silicon Valley Bank ("SVB"), at which we maintain cash and cash equivalents in multiple accounts, was closed by the California Department of Financial Protection and Innovation, which appointed the Federal Deposit Insurance Corporation (FDIC) as receiver. The failure of SVB exposed us to liquidity and credit risk prior to the completion of the FDIC resolution of SVB in a manner that fully protects all depositors. As a result, we have not experienced any losses with respect to our funds that had been deposited with SVB.

Funding Requirements

We had cash and cash equivalents of approximately $2.1 million at March 31, 2023. We believe based on our current operating plan, our existing cash and cash equivalents on hand as of March 31, 2023 and cash received related to U.S. Government reimbursements through the filing date of this Form 10-Q will enable us to fund our operations into August 2023 while maintaining a level of general and administrative expenses to support the business and continue development of ACG-701 for Melioidosis with the reduced workforce effective on April 28. 2023.

Management has evaluated different strategies to obtain the required funding for future operations. Despite its efforts, the Company has been unsuccessful in securing additional capital to fund operations, restructure its outstanding debt and otherwise satisfy creditor obligations. As a result, management and the Board are evaluating an assignment for benefit of creditors and other strategic alternatives that may be available, including bankruptcy and liquidation of the Company.

Cash Flows

The following table presents a summary of the primary sources and uses of cash for the three months ended March 31, 2023 and 2022:

(in thousands)	Three Months Ended March 31, 2023	2022
Net cash provided by (used in):		
Operating activities	$ (9,852)	$ (4,568)
Financing activities	(74)	16
Decrease in cash and cash equivalents	**$ (9,926)**	**$ (4,552)**

Operating Activities. The net cash used in operating activities for all periods presented consists primarily of our net income adjusted for non-cash charges and changes in components of working capital. The increase in cash used in operating activities for the three months ended March 31, 2023, as compared to 2022, was primarily due to the impact of the Aceragen Acquisition, including cash outflows associated with acquired development programs (ACG-701 and ACG-801).

Financing Activities. Net cash (used in) provided by financing activities primarily consisted of the following amounts received in connection with the following transactions:

- for the three months ended March 31, 2023, $0.2 million in payments related to our short-term insurance premium financing arrangement, partially offset by $0.1 million in proceeds received from stock option exercises; and
- for the three months ended March 31, 2022, less than $0.1 million in proceeds received from employee stock purchases.

Material Cash Requirements

During the three months ended March 31, 2023, there were no material changes outside the ordinary course of our business to our material cash requirements as disclosed in our 2022 Form 10-K.

Critical Accounting Policies and Estimates

This management's discussion and analysis of financial condition and results of operations is based on our financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting periods. On an ongoing basis, management evaluates its estimates and judgments, including those related to (i) indefinite-lived intangible assets, (ii) warrants and Series X Preferred Stock liabilities and related revaluation gains (losses), (iii) research and development prepayments, accruals and related expenses, and (iv) stock-based compensation. Management bases its estimates and judgments on historical experience and on various other factors that are believed to be 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. Actual results may differ from these estimates under different assumptions or conditions.

We regard an accounting estimate or assumption underlying our financial statements as a "critical accounting estimate" if:

- the nature of the estimate or assumption is material due to the level of subjectivity and judgment necessary to account for highly uncertain matters or the susceptibility of such matters to change; and
- the impact of the estimates and assumptions on financial condition or operating performance is material.

Our significant accounting policies are described in Note 2 of the notes to our consolidated financial statements included in our 2022 Form 10-K. However, please refer to Note 2 in the accompanying notes to the condensed consolidated financial statements contained in this Quarterly Report on Form 10-Q for updated policies and estimates, if applicable, that could impact our results of operations, financial position, and cash flows. Not all of these significant policies, however, fit the definition of critical accounting policies and estimates. We believe that our accounting policies relating to (i) indefinite-lived intangible assets, (ii) Series X Preferred Stock liabilities and related revaluation gains (losses), (iii) research and development prepayments, accruals and related expenses, and (iv) stock-based compensation, as described under the caption "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations — Critical Accounting Policies and Estimates" in our 2022 Form 10-K, fit the description of critical accounting estimates and judgments.

New Accounting Pronouncements

New accounting pronouncements are discussed in Note 2 in the notes to the condensed consolidated financial statements in this Quarterly Report on Form 10-Q.

Item 3. Quantitative and Qualitative Disclosures about Market Risk.

There were no material changes in our exposure to market risk from December 31, 2022. Our market risk profile as of December 31, 2022 is disclosed in Item 7A, *Quantitative and Qualitative Disclosures About Market Risk*, of our 2022 Form 10-K.

Item 4. Controls and Procedures.

(a) *Evaluation of Disclosure Controls and Procedures.* Our management, with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of March 31, 2023. In designing and evaluating our disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and our management necessarily applied its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on this evaluation, our principal executive officer and principal financial officer concluded that as of March 31, 2023, our disclosure controls and procedures were (1) designed to ensure that material information relating to us is made known to our principal executive officer and principal financial officer by others, particularly during the period in which this report was prepared, and (2) effective, in that they provide reasonable assurance that information required to be disclosed by us in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms.

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

PART II — OTHER INFORMATION

Item 1A. Risk Factors.

Risk factors that may affect our business and financial results are discussed within Item 1A "Risk Factors" of our annual report on Form 10-K filed with the SEC on April 13, 2023 ("2022 Form 10-K"). There have been no material changes to the disclosures relating to this item from those set forth in our 2022 Form 10-K, except as follows.

Despite recent cost-saving measures, our cash and cash equivalents are sufficient to fund operations only through August 2023, and our Board currently is evaluating several options, including an assignment for the benefit of creditors and bankruptcy and liquidation of the Company.

We had cash and cash equivalents of approximately $2.1 million at March 31, 2023. We believe based on our current operating plan, our existing cash and cash equivalents on hand as of March 31, 2023 and cash received related to U.S. Government reimbursements through the filing date of this Form 10-Q will enable us to fund our operations into August 2023. As of the filing date of this Form 10-Q, the Board is evaluating several options, including an assignment for the benefit of creditors, liquidation, dissolution and wind-down of the Company.

We may not be able to comply with Nasdaq's continued listing standards.

Our Common Stock trades on The Nasdaq Capital Market ("Nasdaq") under the symbol "ACGN." We cannot assure you that our securities will continue to be listed on Nasdaq.

On May 24, 2023, the Company received a notice (the "Notice") from the Nasdaq Listing Qualifications Department (the "Staff"), stating that because the Company had not yet filed its Quarterly Report on Form 10-Q for the three months ended March 31, 2023, the Company was not in compliance with Nasdaq Listing Rule 5250(c)(1). Nasdaq Listing Rule 5250(c)(1) requires listed companies to timely file all required periodic financial reports with the SEC. The Notice had no immediate effect on the listing of the Company's common stock.

Subsequent to receiving the Notice, the Company received an inquiry from the staff of the Nasdaq (the "Staff") noting concerns regarding the Company's potential to be a public shell company and requesting information to assist the Staff in its analysis in determining whether Nasdaq deems the Company to be a public shell. The Company has responded to the Staff's inquiry, which remains ongoing.

There is no guarantee that we will be able to satisfy Nasdaq's continued listing requirements to maintain our listing on Nasdaq for any periods of time. Our failure to continue to meet these requirements may result in our securities being delisted from Nasdaq.

As of March 31, 2023, we had an accumulated deficit of $780.7 million and total stockholders' equity of $22.5 million. We expect to incur substantial operating losses in future periods and will require additional capital as we seek to advance any future product candidates through development to commercialization. Additionally, since December 31, 2022, our common stock has traded as low as $1.31 per share. If we fail to comply with Nasdaq rules and requirements, including, without limitation, with (i) Nasdaq Listing Rule 5550(a)(2), which requires us to maintain a minimum bid price of at least $1 per share for continued listing (the "Minimum Bid Requirement"), or (ii) Nasdaq Listing Rule 5550(b)(1), which requires the Company to maintain a minimum of $2.5 million in stockholders' equity (the "Minimum Equity Requirement"), our stock may be delisted. In addition, even if we demonstrate compliance with the Minimum Bid Requirement and Minimum Equity Requirement, we will have to continue to meet other objective and subjective listing requirements to continue to be listed on Nasdaq. Delisting from Nasdaq could make trading our common stock more difficult for investors, potentially leading to declines in our share price and liquidity. Without a Nasdaq listing, stockholders may have a difficult time getting a quote for the sale or purchase of our common stock, the sale or purchase of our common stock would likely be made more difficult, and the trading volume and liquidity of our common stock could decline. Delisting from Nasdaq could also result in negative publicity and could also make it more difficult for us to raise additional capital. The absence of such a listing may adversely affect the acceptance of our common stock as currency or the value accorded by other parties. Further, if we are delisted, we would also incur additional costs under state blue sky laws in connection with any sales of our securities. These requirements could severely limit the market liquidity of our common stock and the ability of our stockholders to sell our common stock in the secondary market. If our common stock is delisted by Nasdaq, our common stock may be eligible to trade on an over-the-counter quotation system, such as the OTCQB Market, where an investor may find it more difficult to sell our stock or obtain accurate quotations as to

the market value of our common stock. In the event our common stock is delisted from Nasdaq, we may not be able to list our common stock on another national securities exchange or obtain quotation on an over-the counter quotation system.

Item 6. Exhibits.

Exhibit No.	Description
4.1	Form of Idera Pharmaceuticals, Inc. Convertible Unsecured Promissory Notes (Incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K, filed on February 3, 2023)
4.2	Amended and Restated Warrant to Purchase Common Stock, by and between Aceragen, Inc. and NovaQuest Co-Investment Fund XV, L.P., dated March 30, 2023 (Incorporated herein by reference to Exhibit 4.22 to the Annual Report on Form 10-K, filed on April 13, 2023)
10.1	Amendment No. 1 to Executive Transition and Separation Agreement, by and among Vincent Milano and Aceragen, Inc., dated February 10, 2023 (Incorporated herein by reference to Exhibit 10.30 to the Annual Report on Form 10-K, filed on April 13, 2023)
10.2	Amendment No. 1 to Executive Transition and Separation Agreement, by and among Daniel Soland and Aceragen, Inc., dated February 10, 2023 (Incorporated herein by reference to Exhibit 10.39 to the Annual Report on Form 10-K, filed on April 13, 2023)
31.1*	Certification of Chief Executive Officer and Chief Financial Officer pursuant to Exchange Act Rules 13a-14 and 15d-14, as adopted pursuant to Section 302 of Sarbanes-Oxley Act of 2002
32.1*	Certification of Chief Executive Officer and Chief 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
101.SCH	Inline XBRL Taxonomy Extension Schema
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	Inline XBRL Taxonomy Extension Labels Linkbase Document
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (formatted as inline XBRL with applicable taxonomy extension information contained in Exhibits 101)

† Indicates management contract or compensatory plan or arrangement.
* Filed herewith.

SIGNATURES

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

ACERAGEN, INC.

Date: June 29, 2023

/s/ John Taylor

John Taylor
President, Chief Executive Officer and Chief Financial Officer
(Principal Executive and Financial Officer)

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER PURSUANT TO EXCHANGE ACT RULES 13a-14 AND 15d-14, AS ADOPTED PURSUANT TO SECTION 302 OF SARBANES-OXLEY ACT OF 2002

I, John Taylor, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Aceragen, Inc.;
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. I am responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: June 29, 2023

/s/ JOHN TAYLOR
John Taylor
Chief Executive Officer and Chief Financial Officer

Exhibit 32.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Aceragen, 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, John Taylor, Chief Executive Officer and Chief Financial Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that to his knowledge:

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

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

A signed original of this written statement has been provided to Aceragen, Inc. and will be retained by Aceragen, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

Dated: June 29, 2023

/s/ JOHN TAYLOR
John Taylor
Chief Executive Officer and Chief Financial Officer