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

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2023

or

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

Commission File Number: 001-36751

OCUGEN, INC.
(Exact name of registrant as specified in its charter)

Delaware	**04-3522315**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

11 Great Valley Parkway
Malvern, Pennsylvania 19355
(Address of principal executive offices, including zip code)

(484) 328-4701
(Registrant's telephone number, including area code)

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

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.01 per share	**OCGN**	**The Nasdaq Stock Market LLC (The 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 ☒

As of August 14, 2023, there were 256,488,914 outstanding shares of the registrant's common stock, $0.01 par value per share.

OCUGEN, INC.
QUARTERLY REPORT ON FORM 10-Q
FOR THE QUARTERLY PERIOD ENDED JUNE 30, 2023

Unless the context otherwise requires, references to the "Company," "we," "our," or "us" in this report refer to Ocugen, Inc. and its subsidiaries, and references to "OpCo" refer to Ocugen OpCo, Inc., the Company's wholly owned subsidiary.

DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts contained in this Quarterly Report on Form 10-Q regarding our strategy, future operations, future financial position, future revenues, projected costs, prospects, plans, and objectives of management are forward-looking statements. These statements involve known and unknown risks, uncertainties, and other important factors that may cause our actual results, performance, or achievements to be materially different from any future results, performance, or achievements expressed or implied by the forward-looking statements. The words "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "predict," "project," "will," "would," or the negative of such terms and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Such statements are based on assumptions and expectations that may not be realized and are inherently subject to risks, uncertainties, and other factors, many of which cannot be predicted with accuracy and some of which might not even be anticipated.

The forward-looking statements in this Quarterly Report on Form 10-Q and those contained in (i) our Annual Report on Form 10-K filed with the United States Securities and Exchange Commission ("SEC") on February 28, 2023 (the "2022 Annual Report") and (ii) our Quarterly Report on Form 10-Q for the quarter ended March 31, 2023 filed with the SEC on May 5, 2023 (the "First Quarter 10-Q") include, among other things, statements about:

- our estimates regarding expenses, future revenues, capital requirements, as well as the timing, availability of, and the need for, additional financing to continue to advance our product candidates;
- our activities with respect to OCU400, including the results from our ongoing Phase 1/2 trial and our ability to continue enrollment and initiate dosing in adult LCA patients and pediatric patients in our ongoing Phase 1/2 trial and subsequently initiate and complete a Phase 3 trial;
- our ability to obtain funding from government agencies in the United States and/or other countries to continue the development of our inhaled mucosal vaccine platform;
- the uncertainties associated with the clinical development and regulatory approval of our product candidates, OCU400, OCU410, OCU410ST, NeoCart, and OCU200, including potential delays in the initiation, enrollment, and completion of current and future clinical trials, including our ability to resolve the FDA's clinical hold on our IND application for OCU200;
- our ability to realize any value from our product candidates and preclinical programs being developed and anticipated to be developed, in light of inherent risks and difficulties involved in successfully commercializing products and the risk that our products, if approved, may not achieve broad market acceptance;
- the uncertainties in obtaining successful trial results for our product candidates and unexpected costs that may result therefrom;
- our ability to comply with regulatory schemes and other regulatory developments applicable to our business in the United States and other countries;
- the performance of third-parties upon which we depend, including contract development and manufacturing organizations, suppliers, manufacturers, group purchasing organizations, distributors, and logistics providers;
- the pricing and reimbursement of our product candidates, if commercialized;
- our ability to obtain and maintain patent protection, or obtain licenses to intellectual property and defend our intellectual property rights against third-parties;
- our ability to maintain our relationships, profitability, and contracts with our key collaborators and commercial partners and our ability to establish additional collaborations and partnerships;
- our ability to recruit and retain key scientific, technical, commercial, and management personnel and to retain our executive officers;
- our ability to comply with stringent United States and applicable foreign government regulations with respect to the manufacturing of pharmaceutical products, including compliance with current Good Manufacturing Practice regulations, and other relevant regulatory authorities;
- the extent to which health epidemics and other outbreaks of communicable diseases, geopolitical turmoil, macroeconomic conditions, social unrest, political instability, terrorism, or acts of war could disrupt our business and operations, including impacts on our development programs, global supply chain, and collaborators and manufacturers; and

- other matters discussed under the heading "Risk Factors" contained in the 2022 Annual Report, the First Quarter 10-Q, and in any other documents we have filed with the SEC.

We may not 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. Actual results or events could differ materially from the plans, intentions, and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in our 2022 Annual Report and in our First Quarter 10-Q, particularly under the section titled "Risk Factors," that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures, collaborations, investments, or other significant transactions we may make.

You should read this Quarterly Report on Form 10-Q and the documents we have filed as exhibits to this Quarterly Report on Form 10-Q completely and with the understanding that our actual future results may be materially different from what we expect. Except as required by law, we do not assume any obligation to update any forward-looking statements.

In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this Quarterly Report on Form 10-Q, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements. We qualify all of our forward-looking statements by these cautionary statements. In addition, with respect to all of our forward-looking statements, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995.

Solely for convenience, tradenames and trademarks referred to in this Quarterly Report on Form 10-Q appear without the ® or ™ symbols, but those references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or that the applicable owners will not assert their rights, to these tradenames or trademarks, as applicable. All tradenames, trademarks, and service marks included or incorporated by reference in this Quarterly Report on Form 10-Q are the property of their respective owners. The name NeoCart has not been evaluated or cleared by the FDA.

PART I — FINANCIAL INFORMATION

Item 1. Financial Statements

OCUGEN, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(in thousands, except share and per share amounts)
(Unaudited)

	June 30, 2023	December 31, 2022
Assets		
Current assets		
Cash and cash equivalents	$ 70,578	$ 77,563
Marketable securities	—	13,371
Prepaid expenses and other current assets	2,874	7,558
Total current assets	73,452	98,492
Property and equipment, net	11,720	6,053
Other assets	3,804	4,087
Total assets	$ 88,976	$ 108,632
Liabilities and stockholders' equity		
Current liabilities		
Accounts payable	$ 3,881	$ 8,062
Accrued expenses and other current liabilities	7,787	9,900
Operating lease obligations	526	498
Current portion of long term debt	1,266	—
Total current liabilities	13,460	18,460
Non-current liabilities		
Operating lease obligations, less current portion	3,308	3,587
Long term debt, net	1,472	2,289
Other non-current liabilities	455	244
Total non-current liabilities	5,235	6,120
Total liabilities	18,695	24,580
Commitments and contingencies (Note 13)		
Stockholders' equity		
Convertible preferred stock; $0.01 par value; 10,000,000 shares authorized at June 30, 2023 and December 31, 2022		
Series A; zero shares issued and outstanding at June 30, 2023 and December 31, 2022	—	—
Series B; 54,745 shares issued and outstanding at June 30, 2023 and December 31, 2022	1	1
Common stock; $0.01 par value; 295,000,000 shares authorized, 256,608,552 and 221,721,182 shares issued, and 256,487,052 and 221,599,682 shares outstanding at June 30, 2023 and December 31, 2022, respectively	2,566	2,217
Treasury stock, at cost, 121,500 shares at June 30, 2023 and December 31, 2022	(48)	(48)
Additional paid-in capital	320,181	294,874
Accumulated other comprehensive income	22	26
Accumulated deficit	(252,441)	(213,018)
Total stockholders' equity	70,281	84,052
Total liabilities and stockholders' equity	$ 88,976	$ 108,632

See accompanying notes to condensed consolidated financial statements.

OCUGEN, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(in thousands, except share and per share amounts)
(Unaudited)

	Three months ended June 30,		Six months ended June 30,	
	2023	2022	2023	2022
Operating expenses				
Research and development	$ 14,169	$ 9,007	$ 23,727	$ 16,922
General and administrative	9,564	10,558	17,757	20,677
Total operating expenses	23,733	19,565	41,484	37,599
Loss from operations	(23,733)	(19,565)	(41,484)	(37,599)
Other income (expense), net	808	94	2,061	109
Net loss	$ (22,925)	$ (19,471)	$ (39,423)	$ (37,490)
Other comprehensive income (loss)				
Foreign currency translation adjustment	(2)	10	(3)	10
Unrealized gain (loss) on marketable securities	(1)	—	(1)	—
Comprehensive loss	$ (22,928)	$ (19,461)	$ (39,427)	$ (37,480)
Shares used in calculating net loss per common share — basic and diluted	238,311,498	215,862,977	231,952,888	210,806,330
Net loss per share of common stock — basic and diluted	$ (0.10)	$ (0.09)	$ (0.17)	$ (0.18)

See accompanying notes to condensed consolidated financial statements.

OCUGEN, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands, except share amounts)
(Unaudited)

	Series A Convertible Preferred Stock		Series B Convertible Preferred Stock		Common Stock		Treasury Stock	Additional Paid-in Capital	Accumulated Other Comprehensive Income	Accumulated Deficit	Total
	Shares	Amount	Shares	Amount	Shares	Amount					
Balance at December 31, 2022	—	$ —	54,745	$ 1	221,721,182	$ 2,217	$ (48)	$ 294,874	$ 26	$ (213,018)	$ 84,052
Stock-based compensation expense	—	—	—	—	—	—	—	2,689	—	—	2,689
Issuance of common stock for stock option exercises and restricted stock unit vesting, net	—	—	—	—	348,555	3	—	(4)	—	—	(1)
Issuance of common stock for capital raises, net	—	—	—	—	4,478,956	45	—	5,514	—	—	5,559
Other comprehensive income (loss)	—	—	—	—	—	—	—	—	(1)	—	(1)
Net loss	—	—	—	—	—	—	—	—	—	(16,498)	(16,498)
Balance at March 31, 2023	—	$ —	54,745	$ 1	226,548,693	$ 2,265	$ (48)	$ 303,073	$ 25	$ (229,516)	$ 75,800
Stock-based compensation expense	—	—	—	—	—	—	—	2,632	—	—	2,632
Issuance of common stock for stock option exercises and restricted stock unit vesting, net	—	—	—	—	59,859	1	—	9	—	—	10
Issuance of common stock for capital raises, net	—	—	—	—	30,000,000	300	—	14,467	—	—	14,767
Other comprehensive income (loss)	—	—	—	—	—	—	—	—	(3)	—	(3)
Net loss	—	—	—	—	—	—	—	—	—	(22,925)	(22,925)
Balance at June 30, 2023	**—**	**$ —**	**54,745**	**$ 1**	**256,608,552**	**$ 2,566**	**$ (48)**	**$ 320,181**	**$ 22**	**$ (252,441)**	**$ 70,281**

OCUGEN, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (CONTINUED)
(in thousands, except share amounts)
(Unaudited)

	Series A Convertible Preferred Stock		Series B Convertible Preferred Stock		Common Stock		Treasury Stock	Additional Paid-in Capital	Accumulated Other Comprehensive Income	Accumulated Deficit	Total
	Shares	Amount	Shares	Amount	Shares	Amount					
Balance at December 31, 2021	7	$ —	54,745	$ 1	199,502,183	$ 1,995	$ (48)	$ 225,537	$ —	$ (131,667)	$ 95,818
Stock-based compensation expense	—	—	—	—	—	—	—	3,299	—	—	3,299
Issuance of common stock for stock option exercises and restricted stock unit vesting, net	—	—	—	—	277,323	3	—	177	—	—	180
Issuance of common stock for capital raises, net	—	—	—	—	15,973,420	160	—	49,691	—	—	49,851
Net loss	—	—	—	—	—	—	—	—	—	(18,019)	(18,019)
Balance at March 31, 2022	7	$ —	54,745	$ 1	215,752,926	$ 2,158	$ (48)	$ 278,704	$ —	$ (149,686)	$ 131,129
Stock-based compensation expense	—	—	—	—	—	—	—	2,079	—	—	2,079
Issuance of common stock for stock option exercises and restricted stock unit vesting, net	—	—	—	—	515,221	5	—	356	—	—	361
Series A convertible preferred stock conversion	(7)	—	—	—	3,115	—	—	—	—	—	—
Other comprehensive income (loss)	—	—	—	—	—	—	—	—	10	—	10
Net loss	—	—	—	—	—	—	—	—	—	(19,471)	(19,471)
Balance at June 30, 2022	—	**$ —**	**54,745**	**$ 1**	**216,271,262**	**$ 2,163**	**$ (48)**	**$ 281,139**	**$ 10**	**$ (169,157)**	**$ 114,108**

See accompanying notes to condensed consolidated financial statements.

OCUGEN, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)
(Unaudited)

	Six months ended June 30,	
	2023	**2022**
Cash flows from operating activities		
Net loss	$ (39,423)	$ (37,490)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization expense	348	166
Amortization (accretion) on marketable securities	(182)	—
Non-cash interest expense	54	38
Non-cash lease expense	265	334
Stock-based compensation expense	5,321	5,378
Impairment of advance for COVAXIN supply	4,074	—
Loss on disposal of fixed assets related to COVAXIN	363	—
Other	439	—
Changes in assets and liabilities:		
Prepaid expenses and other current assets	572	132
Accounts payable and accrued expenses	(8,625)	2,844
Lease obligations	(252)	(265)
Net cash used in operating activities	(37,046)	(28,863)
Cash flows from investing activities		
Purchases of marketable securities	(3,947)	—
Proceeds from the maturities of marketable securities	17,500	—
Purchases of property and equipment	(4,389)	(1,589)
Net cash provided by (used in) investing activities	9,164	(1,589)
Cash flows from financing activities		
Proceeds from issuance of common stock, net	20,690	50,538
Payment of equity issuance costs	(222)	(200)
Proceeds from issuance of debt	500	—
Payment of debt issuance costs	(68)	—
Net cash provided by financing activities	20,900	50,338
Effect of changes in exchange rate on cash and cash equivalents	(3)	10
Net (decrease) increase in cash and cash equivalents	(6,985)	19,896
Cash, cash equivalents, and restricted cash at beginning of period	77,563	95,109
Cash and cash equivalents at end of period	$ 70,578	$ 115,005
Supplemental disclosure of non-cash investing and financing transactions:		
Equity issuance costs	$ 133	$ 69
Purchases of property and equipment	$ 2,637	$ 491
Right-of-use asset related to operating leases	$ —	$ 2,918

See accompanying notes to condensed consolidated financial statements.

OCUGEN, INC.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

1. Nature of Business

Ocugen, Inc., together with its wholly owned subsidiaries ("Ocugen" or the "Company"), is a biotechnology company focused on discovering, developing, and commercializing novel gene and cell therapies, biologics, and vaccines that improve health and offer hope for patients across the globe. The Company is headquartered in Malvern, Pennsylvania, and manages its business as one operating segment.

Modifier Gene Therapy Platform

The Company is developing a modifier gene therapy platform designed to fulfill unmet medical needs related to retinal diseases, including inherited retinal diseases ("IRDs"), such as retinitis pigmentosa ("RP"), Leber congenital amaurosis ("LCA"), and Stargardt disease, as well as dry age-related macular degeneration ("AMD") with a gene-agnostic therapy. The Company's modifier gene therapy platform is based on the use of nuclear hormone receptors ("NHRs"), which have the potential to restore homeostasis—the basic biological processes in the retina. Unlike single-gene replacement therapies, which only target one genetic mutation, the Company believes that its modifier gene therapy platform, through its use of NHRs, represents a novel approach that has the potential both to address multiple retinal diseases caused by mutations in multiple genes with a gene-agnostic therapy and to address complex diseases that are potentially caused by imbalances in multiple gene networks.

The Company believes that OCU400 has the potential to be broadly effective in restoring retinal integrity and function across a range of genetically diverse IRDs, including RP and LCA. OCU400 has received Orphan Drug Designation ("ODD") from the United States Food and Drug Administration ("FDA") and Orphan Medicinal Product Designation ("OMPD") from the European Commission ("EC") for the treatment of RP and LCA.

The Company is conducting a Phase 1/2 trial to assess the safety and efficacy of unilateral subretinal administration of OCU400 in patients with nuclear receptor subfamily 2 group E member 3 (*"NR2E3")* and rhodopsin (*"RHO")*-related RP and centrosomal protein 290 ("*CEP290")*-related LCA in the United States. The Company has completed dosing adult RP patients in the dose-escalation portion of the trial, which enrolled 10 patients to receive a low, medium, or high dose of OCU400 in the subretinal space. Additionally, the Company completed dosing eight adult RP patients with the high dose, which was determined to be the maximum tolerable dose from the dose-escalation portion of the trial. The Company is continuing to enroll adult LCA patients to receive the medium dose based on the nature of the disease for this subset of the patient population. In April 2023, the Company announced positive preliminary data among adult RP patients treated in the first two cohorts of the Phase 1/2 trial. In Cohorts 1 and 2 of the trial, seven participants with severe vision impairment due to RP associated with the *RHO* and *NR2E3* gene mutations received a unilateral subretinal injection of either a low dose or a medium dose of OCU400, respectively. The preliminary results showed a favorable safety profile and visual improvements after treatment with OCU400 as measured by multi-luminance mobility testing ("MLMT") and best corrected visual acuity assessment ("BCVA"). Additionally, the Company is continuing to enroll pediatric patients in the ongoing Phase 1/2 trial for the treatment of RP and LCA. The Company also intends to initiate a Phase 3 trial for OCU400 for the treatment of RP and LCA near the end of 2023/early 2024, subject to the outcome of the ongoing Phase 1/2 trial and discussions with the FDA on the proposed Phase 3 trial plan.

The Company is also developing OCU410 and OCU410ST, utilizing the nuclear receptor genes RAR-related orphan receptor A ("*RORA*"*)*, for the treatment of dry AMD and Stargardt disease, respectively. OCU410 is a potential one-time, curative therapy with a single sub-retinal injection. OCU410ST has received ODD from the FDA for the treatment of *ABCA4*-associated retinopathies, including Stargardt disease. The Company submitted Investigational New Drug ("IND") applications to the FDA for both OCU410 and OCU410ST in the second quarter of 2023. The FDA cleared the Company's IND applications, and the Company intends to initiate Phase 1/2 trials by the end of 2023.

Regenerative Medicine Cell Therapy Platform

NeoCart is a Phase 3-ready, regenerative medicine cell therapy technology that combines breakthroughs in bioengineering and cell processing to enhance the autologous cartilage repair process. NeoCart is a three-dimensional tissue-engineered disc of new cartilage that is manufactured by growing chondrocytes, the cells responsible for maintaining cartilage health. The chondrocytes are derived from the patient on a unique scaffold. In this therapy, healthy cartilage tissue is grown and implanted in the patient. Cartilage defects often lead to osteoarthritis if left untreated. Current surgical and nonsurgical treatment options are limited in

their efficacy and durability. NeoCart has the potential to accelerate healing, reduce pain, and provide regenerative native-like cartilage strength with durable benefits post transplantation. The FDA granted a regenerative medicine advanced therapy ("RMAT") designation to NeoCart for the repair of full-thickness lesions of knee cartilage injuries in adults. Additionally, the Company received concurrence from the FDA on the confirmatory Phase 3 trial design. The Company is renovating an existing facility into a current Good Manufacturing Practice ("GMP") facility in accordance with the FDA's regulations in support of NeoCart manufacturing for personalized Phase 3 trial material. The Company intends to initiate the Phase 3 trial in the second half of 2024.

Inhaled Mucosal Vaccine Platform

The Company is developing a next-generation, inhalation-based mucosal vaccine platform based on the ChAd vector, which includes OCU500, a bivalent COVID-19 vaccine; OCU510, a seasonal quadrivalent flu vaccine; and OCU520, a combination quadrivalent seasonal flu and bivalent COVID-19 vaccine. The Company's inhaled mucosal vaccine platform is driven by its conviction to serve a public health concern, which requires the endorsement and support of government funding, both domestically and with respect to in-licensed territories abroad, in order to develop and ultimately commercialize its vaccine candidates. As these vaccine candidates are being developed to be administered via inhalation, the Company believes they have the potential to generate rapid local immunity in the upper airways and lungs, where viruses enter and infect the body. The Company believes this unique delivery method may help reduce or prevent infection and transmission as well as provide protection against new virus variants. The Company is continuing the internal development of its inhaled mucosal vaccine platform to achieve IND readiness and intends to submit an IND application in 2024, provided it receives government funding. The Company has submitted multiple proposals to obtain government funding and is continuing discussions with relevant government agencies regarding developmental funding for its inhaled mucosal vaccine platform.

Novel Biologic Therapy for Retinal Diseases

The Company is developing OCU200, which is a novel fusion protein containing parts of human transferrin and tumstatin. OCU200 is designed to treat diabetic macular edema ("DME"), diabetic retinopathy ("DR"), and wet AMD. The Company has completed the technology transfer of manufacturing processes to its contract development and manufacturing organization ("CDMO") and has produced trial materials to initiate a Phase 1 trial. In April 2023, the FDA placed the Company's IND application to initiate a Phase 1 trial targeting DME on clinical hold, as part of the FDA's request for additional information related to CMC. The Company is working to provide the FDA with the requested information as promptly as possible and does not currently expect the clinical hold to impact the anticipated overall timing of the OCU200 clinical development program.

Going Concern

The Company has incurred recurring net losses since inception and has funded its operations to date through the sale of common stock, warrants to purchase common stock, the issuance of convertible notes and debt, and grant proceeds. The Company incurred net losses of approximately $39.4 million and $37.5 million for the six months ended June 30, 2023 and 2022, respectively. As of June 30, 2023, the Company had an accumulated deficit of $252.4 million and cash and cash equivalents totaling $70.6 million. This amount will not meet the Company's capital requirements for the next 12 months after the date that the condensed consolidated financial statements are issued. Due to the inherent uncertainty involved in making estimates and the risks associated with the research, development, and commercialization of biotechnology products, the Company may have based this estimate on assumptions that may prove to be wrong, and the Company's operating plan may change as a result of many factors currently unknown to the Company.

The Company is subject to risks, expenses, and uncertainties frequently encountered by companies in its industry. The Company intends to continue its research, development, and commercialization efforts for its product candidates, which will require significant additional funding. If the Company is unable to obtain additional funding in the future and/or its research, development, and commercialization efforts require higher than anticipated capital, there may be a negative impact on the financial viability of the Company. The Company plans to fund its operations through public and private placements of equity and/or debt, payments from potential strategic research and development arrangements, sales of assets, licensing and/or collaboration arrangements with pharmaceutical companies or other institutions, funding from the government, particularly for the development of the Company's novel inhaled mucosal vaccine platform, or funding from other third parties. Such financing and funding may not be available at all, or on terms that are favorable to the Company. While Company management believes that it has a plan to fund operations, its plan may not be successfully implemented. Failure to generate sufficient cash flows from operations, raise additional capital, or appropriately manage certain discretionary spending, could have a material adverse effect on the Company's ability to achieve its intended business objectives.

As a result of these factors, together with the anticipated continued spending that will be necessary to continue to research, develop, and commercialize the Company's product candidates, there is substantial doubt about the Company's ability to continue as a going concern within one year after the date that these condensed consolidated financial statements are issued. The condensed consolidated financial statements do not contain any adjustments that might result from the resolution of any of the above uncertainties.

2. Summary of Significant Accounting Policies

Basis of Presentation and Consolidation

The accompanying unaudited condensed consolidated financial statements included herein have been prepared in conformity with generally accepted accounting principles in the United States ("GAAP") and under the rules and regulations of the United States Securities and Exchange Commission ("SEC") for interim reporting. The accompanying unaudited condensed consolidated financial statements include all adjustments, consisting of normal recurring adjustments, that are necessary to present fairly the Company's financial position, results of operations, and cash flows. The condensed consolidated results of operations are not necessarily indicative of the results that may occur for the full fiscal year. Certain information and footnote disclosures of the Company normally included in the financial statements prepared in accordance with GAAP have been condensed or omitted under the SEC's rules and regulations. These condensed consolidated financial statements should be read in conjunction with the audited financial statements and accompanying notes thereto for the year ended December 31, 2022, included in the Company's Annual Report on Form 10-K filed with the SEC on February 28, 2023 (the "2022 Annual Report"). The condensed consolidated financial statements include the accounts of Ocugen and its wholly owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

Use of Estimates

In preparing the condensed consolidated financial statements in conformity with GAAP, management is required to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported amounts of expenses during the reporting period. Due to the inherent uncertainty involved in making estimates, actual results reported in future periods may be affected by changes in these estimates. On an ongoing basis, the Company evaluates its estimates and assumptions. These estimates and assumptions include those used in the accounting for research and development contracts, including clinical trial accruals, and the fair value measurement of equity instruments.

Cash and Cash Equivalents

The Company considers all highly liquid investments that have maturities of three months or less when acquired to be cash equivalents. Cash equivalents may include bank demand deposits and money market funds that invest primarily in certificates of deposit, commercial paper, and U.S. government agency securities and treasuries. The Company records interest income received on its cash and cash equivalents to other income (expense), net in the condensed consolidated statements of operations and comprehensive loss. The Company recorded $0.5 million and $1.2 million as interest income for the three and six months ended June 30, 2023, respectively. The Company recorded $0.1 million and $0.2 million as interest income for the three and six months ended June 30, 2022, respectively.

Fair Value Measurements

The Company follows the provisions of Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 820, *Fair Value Measurements* ("ASC 820"), which defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. ASC 820 also establishes a fair value hierarchy, which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. ASC 820 describes three levels of inputs that may be used to measure fair value:

Level 1 — quoted prices in active markets for identical assets or liabilities

Level 2 — quoted prices for similar assets and liabilities in active markets or inputs that are observable

Level 3 — inputs that are unobservable (for example, cash flow modeling inputs based on assumptions)

The carrying value of certain financial instruments, including cash and cash equivalents, accounts payable, and accrued expenses, approximates their fair value due to the short-term nature of these instruments.

Marketable Securities

The Company accounts for marketable securities in accordance with FASB ASC Topic 320, *Investments — Debt and Equity Securities* ("ASC 320"). The Company determines the appropriate classification of its investments in debt securities at the time of purchase. Marketable securities with maturities of 90 days or less at the time of purchase are classified as cash equivalents on the condensed consolidated balance sheets. Debt securities are classified as trading securities if the security is bought and held primarily to be sold in the near term. Debt securities are classified as held-to-maturity if management has both the positive intent and ability to hold until the maturity of the security. Debt securities not classified as trading securities or held-to-maturity securities are classified as available-for-sale securities. The Company's marketable securities were previously comprised of debt securities and were classified as available-for-sale securities. The Company's marketable securities matured during the six months ended June 30, 2023.

Available-for-sale securities are recorded at fair value based on inputs that are observable, either directly or indirectly, such as quoted prices for identical securities in active markets (Level 1) or quoted prices for similar securities in active markets or inputs that are observable (Level 2). Unrealized gains and losses are included in other comprehensive income (loss) in the condensed consolidated statements of operations and comprehensive loss. Amortization of premium or accretion of discount on debt securities are included in other income (expense), net in the condensed consolidated statements of operations and comprehensive loss.

The Company reviews investments in debt securities for other-than-temporary impairment if the fair value of the investment is less than the amortized cost basis. The assessment for other-than-temporary impairment is performed at the individual security level. To date, the Company has not recognized any impairments with respect to its debt securities.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist of cash and cash equivalents. The Company's cash and cash equivalents are held in accounts at financial institutions that may exceed federally insured limits. The Company has not experienced any credit losses in such accounts and does not believe it is exposed to significant credit risk beyond the standard credit risk associated with commercial banking relationships.

Leases

The Company determines if an arrangement is a lease at inception. This determination generally depends on whether the arrangement conveys to the Company the right to control the use of an explicitly or implicitly identified fixed asset for a period of time in exchange for consideration. Control of an underlying asset is conveyed to the Company, if the Company obtains the rights to direct the use of and to obtain substantially all of the economic benefits from using the underlying asset. The Company's lease agreements include lease and non-lease components, which the Company has elected not to account for separately for all classes of underlying assets. Lease expense for variable lease components is recognized when the obligation is probable.

The Company currently leases real estate classified as operating leases. Operating leases are included in other assets and operating lease obligations in the Company's condensed consolidated balance sheets. At lease commencement, the Company records a lease liability based on the present value of the lease payments over the expected lease term, including any options to extend the lease that the Company is reasonably certain to exercise, and records a corresponding right-of-use lease asset based on the lease liability, adjusted for any lease incentives received and any initial direct costs paid to the lessor prior to the lease commencement date. Lease expense is recognized on a straight-line basis over the lease term and recognized as research and development expense or general and administrative expense based on the underlying nature of the expense. FASB ASC Topic 842, *Leases* ("ASC 842") requires a lessee to discount its unpaid lease payments using the interest rate implicit in the lease or, if that rate cannot be readily determined, its incremental borrowing rate. The implicit interest rates were not readily determinable in the Company's current operating leases. As such, the incremental borrowing rates were used based on the information available at the commencement dates in determining the present value of lease payments.

The lease term for the Company's leases includes the non-cancellable period of the lease plus any additional periods covered by either an option to extend (or not to terminate) the lease that the Company is reasonably certain to exercise, or an option to extend (or not to terminate) the lease controlled by the lessor.

Lease payments included in the measurement of the lease liability are comprised of fixed payments, variable payments that depend on an index or rate, and amounts probable to be payable under the exercise of an option to purchase the underlying asset, if reasonably certain.

Variable payments not dependent on an index or rate associated with the Company's leases are recognized when the event, activity, or circumstance is probable. Variable payments include the Company's proportionate share of certain utilities and other operating expenses and are presented as operating expenses in the Company's condensed consolidated statements of operations and comprehensive loss in the same line item as expense arising from fixed lease payments.

Impairment of Assets

The Company reviews its assets, including property and equipment, for impairment whenever changes in circumstances or events may indicate that the carrying amounts are not recoverable. These indicators include, but are not limited to, a significant change in the extent or manner in which an asset is used or its physical condition, a significant decrease in the market price of an asset, or a significant adverse change in the business or the industry that could affect the value of an asset. An asset is tested for impairment by comparing the net carrying value of the asset to the undiscounted net cash flows to be generated from the use and eventual disposition of the asset.

Stock-Based Compensation

The Company accounts for its stock-based compensation awards in accordance with FASB ASC Topic 718, *Compensation — Stock Compensation* ("ASC 718"). The Company has issued stock-based compensation awards including stock options and restricted stock units ("RSUs"), and has also accounted for certain issuances of preferred stock and warrants in accordance with ASC 718. ASC 718 requires all stock-based payments, including grants of stock options and RSUs, to be recognized in the condensed consolidated statements of operations and comprehensive loss based on their grant date fair values. The Company uses the Black-Scholes option-pricing model to determine the fair value of stock options granted. For RSUs, the fair value of the RSU is determined by the market price of a share of the Company's common stock on the grant date. The Company recognizes forfeitures as they occur.

Expense related to stock-based compensation awards is recognized on a straight-line basis based on the grant date fair value over the associated service period of the award, which is generally the vesting term. Stock-based compensation awards generally vest over a one to three year requisite service period. Stock options have a contractual term of 10 years. Expense related to stock-based compensation awards is recorded to research and development expense or general and administrative expense based on the underlying function of the individual that was granted the stock-based compensation award. Shares issued upon stock option exercise and RSU vesting are newly-issued common shares.

Estimating the fair value of stock options requires the input of subjective assumptions, including the expected life of the stock option, stock price volatility, the risk-free interest rate, and expected dividends. The assumptions used in the Company's Black-Scholes option-pricing model represent management's best estimates and involve a number of variables, uncertainties, assumptions, and the application of management's judgment, as they are inherently subjective. If any assumptions change, the Company's stock-based compensation expense could be materially different in the future.

Recently Adopted Accounting Standards

In June 2016, the FASB issued Accounting Standards Update ("ASU") No. 2016-13, *Financial Instruments — Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. The FASB subsequently issued amendments to ASU No. 2016-13, which had the same effective date and transition date of January 1, 2023. ASU No. 2016-13, as amended, requires that credit losses be reported using an expected losses model rather than the incurred losses model that was previously used, and establishes additional disclosures related to credit risks. For available-for-sale debt securities with unrealized losses, these standards now require allowances to be recorded instead of reducing the amortized cost of the investment. These standards limit the amount of credit losses to be recognized for available-for-sale debt securities to the amount by which carrying value exceeds fair value and requires the reversal of previously recognized credit losses if fair value increases. The standard was effective for the Company on January 1, 2023. The adoption of this standard did not have a material impact on the Company's condensed consolidated financial statements.

Recent Accounting Pronouncements

In August 2020, the FASB issued ASU No. 2020-06, *Debt — Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging — Contracts in Entity's Own Equity (Subtopic 815-40)*. This standard will have an effective and transition date of January 1, 2024. Early adoption is currently permitted. This standard simplifies an issuer's accounting for convertible instruments by eliminating two of the three models that require separate accounting for embedded conversion features as well as simplifies the settlement assessment that entities are required to perform to determine whether a contract qualifies for equity classification. This standard also requires entities to use the if-converted method for all convertible

instruments in the diluted earnings per share calculation and includes the effect of potential share settlement (if the effect is more dilutive) for instruments that may be settled in cash or shares, except for certain liability-classified share-based payment awards. The standard requires new disclosures about events that occur during the reporting period that cause conversion contingencies to be met and about the fair value of a public business entity's convertible debt at the instrument level, among other things. The Company does not currently expect the adoption of this standard to have a material impact on the Company's condensed consolidated financial statements.

3. Fair Value Measurements

The following table summarizes the fair value and the classification by level of input within the fair value hierarchy of financial assets as of December 31, 2022 that are recurring fair value measurements (in thousands):

	As of December 31, 2022			
	Level 1	Level 2	Level 3	Total
Assets:				
Cash and cash equivalents	$ 76,564	$ 999	$ —	$ 77,563
Marketable securities				
U.S. government agency securities and treasuries	—	7,433	—	7,433
Commercial paper	—	5,938	—	5,938
Total assets	$ 76,564	$ 14,370	$ —	$ 90,934

The valuation of the Company's cash and cash equivalents totaling $70.6 million, as of June 30, 2023, utilized Level 1 inputs. The valuation of the Company's marketable securities, which matured during the six months ended June 30, 2023, utilized Level 2 inputs. See Note 2 for additional information. Further, the Company believes the fair value using Level 2 inputs of the borrowings under the EB-5 Loan Agreement (as defined in Note 8) approximates its carrying value. See Note 8 for additional information.

4. Marketable Securities

The Company's marketable securities matured during the six months ended June 30, 2023. The following table provides the amortized cost basis and fair value of the Company's available-for-sale investments as of December 31, 2022 by security type as reflected on the condensed consolidated balance sheets (in thousands):

	As of December 31, 2022			
	Amortized Cost Basis	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. government agency securities and treasuries	$ 7,432	$ 1	$ —	$ 7,433
Commercial paper	5,938	—	—	5,938
Total marketable securities	$ 13,370	$ 1	$ —	$ 13,371

5. Property and Equipment

The following table provides a summary of the major components of property and equipment as reflected on the condensed consolidated balance sheets (in thousands):

	June 30, 2023	December 31, 2022
Furniture and fixtures	$ 337	$ 337
Machinery and equipment	1,557	1,685
Leasehold improvements	2,023	1,603
Construction in progress	8,696	3,049
Total property and equipment	12,613	6,674
Less: accumulated depreciation	(893)	(621)
Total property and equipment, net	$ 11,720	$ 6,053

6. Operating Leases

The Company has commitments under operating leases for office, laboratory, and future manufacturing space located in Malvern, Pennsylvania. The Company's leases have initial terms of approximately seven years and include options to extend the leases for up to 10 years. The options for extension have been excluded from the lease terms (and lease liabilities) as it is not reasonably certain that the Company will exercise such options.

The Company's future minimum base rent payments are approximately as follows (in thousands):

For the years ending December 31,	Amount
Remainder of 2023	$ 384
2024	787
2025	810
2026	834
2027	834
Thereafter	978
Total	$ 4,627
Less: present value adjustment	(793)
Present value of minimum lease payments	$ 3,834

7. Accrued Expenses and Other Current Liabilities

The following table provides a summary of the major components of accrued expenses and other current liabilities as reflected on the condensed consolidated balance sheets (in thousands):

	June 30, 2023	December 31, 2022
Research and development	$ 896	$ 1,894
Clinical	395	3,310
Professional fees	1,154	437
Employee-related	2,327	2,752
Other	3,015	1,507
Total accrued expenses and other current liabilities	$ 7,787	$ 9,900

8. Debt

In September 2016, in connection with the U.S. government's foreign national investor program, commonly known as the EB-5 Program, the Company entered into a financing arrangement (the "EB-5 Loan Agreement") which provided for cumulative borrowings of up to $10.0 million from EB5 Life Sciences, L.P. ("EB-5 Life Sciences") as the lender. Pursuant to the EB-5

Loan Agreement, borrowings were made in $0.5 million increments with a fixed interest rate of 4.0% per annum (the "Original Offering"). The borrowings pursuant to the Original Offering are secured by substantially all of the Company's assets, with the exception of any patents, patent applications, pending patents, patent licenses, patent sublicenses, trademarks, and other intellectual property rights held by the Company.

Under the terms and conditions of the Original Offering, the Company borrowed $1.0 million during 2016, $0.5 million during 2020, $0.5 million in September 2022, and an additional $0.5 million in May 2023. Issuance costs were recognized as a reduction to the loan balance and are amortized to interest expense over the term of each borrowing. Pursuant to the Original Offering, each outstanding borrowing, including accrued interest, becomes due upon the seventh anniversary of its disbursement date, subject to certain extension provisions. Once repaid, amounts cannot be re-drawn.

The March 2022 EB-5 Reform and Integrity Act of 2022 (the "RIA") enacted changes to the EB-5 Program, including but not limited to: raising the minimum investment amount for a targeted employment area (the "TEA") from its previous level of $0.5 million to its new level of $0.8 million, as well as modifying the process for the creation of TEAs. Under the previous regime, the state in which the TEA would be located could send a letter in support of efforts to designate a TEA. Under the current regime, only U.S. Citizenship and Immigration Services can designate TEAs.

In connection with the aforementioned changes to the EB-5 Program, the Original Offering was amended in May 2023 (the "Amended Offering"). Pursuant to the terms and conditions of the Amended Offering, EB-5 Life Sciences now provides for cumulative borrowings of up to $20.0 million. Future borrowings can be made in increments of $0.8 million with a fixed interest rate of 4.0% per annum. Each future borrowing pursuant to the Amended Offering, including accrued interest, will become due upon the seventh anniversary of its disbursement date. The Company has not made any borrowings pursuant to the Amended Offering as of June 30, 2023.

The carrying values of the borrowings pursuant to the Original Offering as of June 30, 2023 and December 31, 2022 are summarized below (in thousands):

	June 30, 2023	December 31, 2022
Principal outstanding	$ 2,500	$ 2,000
Plus: accrued interest	350	307
Less: unamortized debt issuance costs	(112)	(18)
Carrying value, net	2,738	2,289
Less: current portion of long term debt	(1,266)	—
Long term debt, net of current portion	$ 1,472	$ 2,289

9. Equity

Offerings of Common Stock

Public Offerings

In May 2023, the Company entered into an underwriting agreement with an underwriter, pursuant to which the Company sold 30.0 million shares of its common stock at a public offering price of $0.50 per share (the "May 2023 Public Offering"). The Company received net proceeds of $14.8 million after deducting equity issuance costs. The May 2023 Public Offering was made pursuant to the Company's Registration Statement on Form S-3, which was previously filed with the SEC and became effective on April 21, 2023, as supplemented by a prospectus supplement, dated May 24, 2023.

In February 2022, the Company entered into an underwriting agreement with an underwriter, pursuant to which the Company sold 16.0 million shares of its common stock at a public offering price of $3.13 per share. The Company received net proceeds of $49.8 million after deducting equity issuance costs.

At-the-Market Offering

In June 2022, the Company entered into an At Market Issuance Sales Agreement (the "Sales Agreement") with certain agents, pursuant to which the Company could, from time to time, offer and sell shares of its common stock having an aggregate gross sales price of up to $160.0 million. During the six months ended June 30, 2023, the Company sold 4.5 million shares of its

common stock and received net proceeds of $5.6 million after deducting issuance costs of $0.2 million. The Sales Agreement was terminated in February 2023.

COVAXIN Preferred Stock Purchase Agreement

On March 1, 2021, the Company entered into a preferred stock purchase agreement (the "Preferred Stock Purchase Agreement") with Bharat Biotech International Limited ("Bharat Biotech"), pursuant to which the Company agreed to issue and sell 0.1 million shares of the Company's Series B Convertible Preferred Stock, par value $0.01 per share (the "Series B Convertible Preferred Stock"), at a price per share equal to $109.60, to Bharat Biotech. On March 18, 2021, the Company issued the Series B Convertible Preferred Stock as an advance payment of $6.0 million for the supply of COVAXIN to be provided by Bharat Biotech pursuant to a Development and Commercial Supply Agreement (the "Supply Agreement").

Each share of Series B Convertible Preferred Stock was convertible, at the option of Bharat Biotech, into 10 shares of the Company's common stock (the "Conversion Ratio") only after (i) the Company received stockholder approval to increase the number of authorized shares of common stock under its Sixth Amended and Restated Certificate of Incorporation, which the Company received in April 2021, and (ii) the Company's receipt of shipments by Bharat Biotech of the first 10.0 million doses of COVAXIN manufactured by Bharat Biotech pursuant to the Supply Agreement, and further on the terms and subject to the conditions set forth in the Certificate of Designation of Preferences, Rights and Limitations of Series B Convertible Preferred Stock. The conversion rate of the Series B Convertible Preferred Stock was subject to adjustment in the event of a stock dividend, stock split, reclassification, or similar event with respect to the Company's common stock.

The Company accounted for the issuance of the Series B Convertible Preferred Stock in accordance with ASC 718 and recorded its grant date fair value of $5.0 million within stockholders' equity during the year ended December 31, 2021, with a corresponding short-term asset for the advanced payment for the supply of COVAXIN included in prepaid expenses and other current assets in the condensed consolidated balance sheet as of December 31, 2021. The Company utilized the traded common stock price, adjusted by the Conversion Ratio, to value the Series B Convertible Preferred Stock and the Finnerty model to estimate a 15% discount rate for the lack of marketability of the instrument. The valuation incorporated Level 3 inputs in the fair value hierarchy, including the estimated time until the instrument's liquidity and the estimated volatility of the Company's common stock as of the grant date. As of December 31, 2022, the remaining balance of the short-term asset for the advanced payment for the supply of COVAXIN was $4.1 million.

In April 2023, the FDA announced the cancellation of all emergency use authorizations ("EUA") issued with respect to monovalent COVID-19 vaccine formulations. Consequently, the Company determined it was no longer commercially viable to further the development of COVAXIN, a monovalent vaccine, in its North American territories. As of June 30, 2023, the conversion condition relating to the delivery of the first 10.0 million doses had not been met. During the three and six months ended June 30, 2023, the Company wrote off the remaining balance of the short-term asset for the advanced payment for the supply of COVAXIN of $4.1 million to research and development expense in the condensed consolidated statements of operations and comprehensive loss.

10. Warrants

Canada Warrants

In July 2021, the Company entered into a consulting agreement with regard to the Company's Canadian operations (the "Canada Consulting Agreement"). Compensation under the Canada Consulting Agreement included the issuance of warrants to purchase up to 0.2 million shares of the Company's common stock (the "Canada Warrants") and cash payments of up to $3.0 million, both dependent upon the achievement of certain milestones related to COVAXIN. The Canada Warrants were issued on July 15, 2021, had an exercise price of $6.36 per share, and were accounted for in accordance with ASC 718. As of June 30, 2023, in connection with the Company's decision to terminate the COVAXIN program, the Canada Consulting Agreement and the Canada Warrants were terminated by mutual agreement.

OpCo Warrants

Beginning in 2016, OpCo issued warrants to purchase the Company's common stock (the "OpCo Warrants"). As of June 30, 2023 and December 31, 2022, 0.6 million OpCo Warrants were outstanding. As of June 30, 2023, the outstanding OpCo Warrants had a weighted average exercise price of $6.23 per share and expire between 2026 and 2027.

11. Stock-Based Compensation

Stock-based compensation expense for stock options and RSUs is reflected in the condensed consolidated statements of operations and comprehensive loss as follows (in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2023	2022	2023	2022
General and administrative	$ 1,987	$ 1,495	$ 3,939	$ 3,711
Research and development	645	584	1,382	1,667
Total	$ 2,632	$ 2,079	$ 5,321	$ 5,378

As of June 30, 2023, the Company had $15.0 million of unrecognized stock-based compensation expense related to stock options and RSUs outstanding, which is expected to be recognized over a weighted-average period of 1.8 years.

Equity Plans

The Company maintains two equity compensation plans, the 2014 Ocugen OpCo, Inc. Stock Option Plan (the "2014 Plan") and the Ocugen, Inc. 2019 Equity Incentive Plan (the "2019 Plan", collectively with the 2014 Plan, the "Plans"). As of June 30, 2023, the 2014 Plan and the 2019 Plan authorize for the granting of up to 0.8 million and 28.4 million equity awards with respect to the Company's common stock, respectively. In addition to stock options and RSUs granted under the Plans, the Company has granted certain stock options and RSUs as material inducements to employment in accordance with Nasdaq Listing Rule 5635(c)(4), which were granted outside of the Plans.

Stock Options to Purchase Common Stock

The following table summarizes the Company's stock option activity:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (years)	Aggregate Intrinsic Value (in thousands)
Stock options outstanding at December 31, 2022	10,851,287	$ 2.95	8.3	$ 1,385
Granted	4,722,889	$ 1.07		
Exercised	(240,000)	$ 0.41		
Forfeited	(1,195,241)	$ 2.63		
Stock options outstanding at June 30, 2023	14,138,935	$ 2.40	8.4	$ 236
Stock options exercisable at June 30, 2023	6,465,712	$ 2.70	7.6	$ 176

The weighted average grant date fair values of stock options granted during the three and six months ended June 30, 2023 were $0.43 and $0.88, respectively. The weighted average grant date fair values of stock options granted during the three and six months ended June 30, 2022 were $1.96 and $3.26, respectively. The total fair values of stock options vested during the three and six months ended June 30, 2023 were $2.5 million and $8.1 million, respectively. The total fair values of stock options vested during the three and six months ended June 30, 2022 were $1.1 million and $4.0 million, respectively.

RSUs

The following table summarizes the Company's RSU activity:

	Number of Shares	Weighted Average Grant Date Fair Value
RSUs outstanding at December 31, 2022	924,810	$ 4.12
Granted	3,186,442	$ 1.20
Vested	(245,758)	$ 4.44
Forfeited	(418,671)	$ 1.83
RSUs outstanding at June 30, 2023	3,446,823	$ 1.68

12. Net Loss Per Share of Common Stock

The following table sets forth the computation of basic and diluted net loss per share for the three and six months ended June 30, 2023 and 2022 (in thousands, except share and per share amounts):

	Three months ended June 30,		Six months ended June 30,	
	2023	2022	2023	2022
Net loss — basic and diluted	$ (22,925)	$ (19,471)	$ (39,423)	$ (37,490)
Shares used in calculating net loss per common share — basic and diluted	238,311,498	215,862,977	231,952,888	210,806,330
Net loss per common share — basic and diluted	$ (0.10)	$ (0.09)	$ (0.17)	$ (0.18)

The following potentially dilutive securities have been excluded from the computation of diluted weighted average shares outstanding, as their inclusion would have been antidilutive:

	Three months ended June 30,		Six months ended June 30,	
	2023	2022	2023	2022
Stock options to purchase common stock	14,138,935	12,424,733	14,138,935	12,424,733
RSUs	3,446,823	975,042	3,446,823	975,042
Warrants	628,834	3,110,655	628,834	3,110,655
Series B Convertible Preferred Stock (as converted to common stock)	547,450	547,450	547,450	547,450
Total	18,762,042	17,057,880	18,762,042	17,057,880

13. Commitments and Contingencies

Commitments

The Company has commitments under certain license and development agreements, lease agreements, and debt agreements. Commitments under certain license and development agreements include annual payments, payments upon the achievement of certain milestones, and royalty payments based on net sales of licensed products (commitments under the Company's licensing agreements are more fully described within the Company's 2022 Annual Report). Commitments under lease agreements are future minimum lease payments (see Note 6). Commitments under debt agreements are the future payments of principal and accrued interest under the EB-5 Loan Agreement (see Note 8). As of June 30, 2023, in connection with the Company's decision to terminate the COVAXIN program, the Canada Consulting Agreement was terminated by mutual agreement (see Note 10). Additionally, the Company does not expect to fulfill any commitments under the amended Co-Development, Supply and Commercialization Agreement (the "Covaxin Agreement") with Bharat Biotech (described within the Company's 2022 Annual Report) as a result of the termination of the COVAXIN program.

Contingencies

In June 2021, a securities class action lawsuit was filed against the Company and certain of its agents in the U.S. District Court for the Eastern District of Pennsylvania ("Court") (Case No. 2:21-cv-02725) that purported to state a claim for alleged violations of Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 (the "Exchange Act") and Rule 10b-5 promulgated thereunder, based on statements made by the Company concerning the announcement of the Company's decision to pursue the submission of a BLA for COVAXIN for adults ages 18 years and older rather than pursuing an EUA. In July 2021, a second securities class action lawsuit was filed against the Company and certain of its agents in the Court (Case No. 2:21-cv-03182) that also purported to state a claim for alleged violations of Sections 10(b) and 20(a) of the Exchange Act and Rule 10b-5 promulgated thereunder, based on the same statements as the first complaint. The complaints seek unspecified damages, interest, attorneys' fees, and other costs. In March 2022, the Court consolidated these two related securities class action lawsuits and appointed Andre Galan Bernd Benayon to serve as lead plaintiff. The lead plaintiff's amended complaint was filed in June 2022. In March 2023, the Court granted the Company's motion to dismiss with prejudice. The lead plaintiff has appealed to the United States Court of Appeals for the Third Circuit regarding the order that was entered in March 2023, which dismissed the action with prejudice. The lead plaintiff's appellant's brief and joint appendix were filed in July 2023. The Company's appellees' brief was filed in August 2023, and the lead plaintiff's reply brief is due in September 2023.

In August 2021, a stockholder derivative lawsuit was filed derivatively on behalf of the Company against certain of its agents and the nominal defendant Ocugen in the Court (Case No. 2:21-cv-03876) that purported to state a claim for breach of fiduciary duty and contribution for violations of Sections 10(b) and 21(d) of the Exchange Act, based on facts and circumstances relating to the securities class action lawsuits and seeking contribution and indemnification in connection with claims asserted in the securities class action lawsuits. In September 2021, a second stockholder derivative lawsuit was filed derivatively on behalf of the Company against certain of its agents and the nominal defendant Ocugen in the Court (Case No. 2:21-cv-04169) that purported to state a claim for breach of fiduciary duties, unjust enrichment, abuse of control, waste of corporate assets, and contribution for violations of Sections 10(b) and 21(d) of the Exchange Act, based on the same allegations as the first complaint. The parties to both stockholder derivative lawsuits stipulated to the consolidation of the two stockholder derivative lawsuits and submitted to the Court in each action a proposed order requesting a stay of the litigation pending a decision on any motion to dismiss filed in the securities class action lawsuits, which the Court entered in April 2022. In March 2023, the Court in the securities class action lawsuits granted the Company's motion to dismiss with prejudice. The parties to the stockholder derivative lawsuits stipulated to extend the stay of litigation pending resolution of any appeal filed in the securities class action lawsuits, which the Court entered in March 2023.

The Company believes that the lawsuits are without merit and intends to vigorously defend against them. At this time, no assessment can be made as to their likely outcome or whether the outcome will be material to the Company. No information is available to indicate that it is probable that a loss has been incurred and can be reasonably estimated as of the date of the condensed consolidated financial statements and, as such, no accrual for the loss has been recorded within the condensed consolidated financial statements.

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

You should read the following discussion and analysis of our financial condition and results of operations in conjunction with the financial statements and the notes thereto included elsewhere in this Quarterly Report on Form 10-Q and with our audited financial statements for the year ended December 31, 2022, included in our 2022 Annual Report. Some of the information contained in this discussion and analysis, including information with respect to our plans and strategy for our business and related financing, include forward-looking statements that involve risks, uncertainties, and assumptions. These statements are based on our beliefs and expectations about future outcomes and are subject to risks and uncertainties that could cause our actual results to differ materially from anticipated results. Except as required by law, we undertake no obligation to publicly update these forward-looking statements, whether as a result of new information, future events, or otherwise. You should read the "Risk Factors" section included in our 2022 Annual Report and the "Risk Factors" and "Disclosure Regarding Forward-Looking Statements" sections of this Quarterly Report on Form 10-Q for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Overview

We are a biotechnology company focused on discovering, developing, and commercializing novel gene and cell therapies, biologics, and vaccines that improve health and offer hope for patients across the globe.

Our cutting-edge technology pipeline includes:

- **Modifier Gene Therapy Platform** — Based on the use of NHRs, we believe our modifier gene therapy platform has the potential to address many retinal diseases, including RP, LCA, dry AMD, and Stargardt disease, with a gene-agnostic therapy.
- **Regenerative Medicine Cell Therapy Platform** — Our Phase 3-ready regenerative medicine cell therapy platform technology, NeoCart (autologous chondrocyte-derived neocartilage), is being developed for the repair of knee cartilage injuries in adults.
- **Inhaled Mucosal Vaccine Platform** — Our next-generation, inhaled mucosal vaccine platform includes OCU500, a bivalent COVID-19 vaccine; OCU510, a seasonal quadrivalent flu vaccine; and OCU520, a combination quadrivalent seasonal flu and bivalent COVID-19 vaccine. The development of our inhaled mucosal vaccine platform requires the endorsement and support of government funding, both domestically and with respect to in-licensed territories abroad.
- **Novel Biologic Therapy for Retinal Diseases** — OCU200 is a novel fusion protein containing human transferrin and tumstatin. OCU200 is designed to treat DME, DR, and wet AMD.

Modifier Gene Therapy Platform

We are developing a modifier gene therapy platform designed to fulfill unmet medical needs related to retinal diseases, including IRDs, such as RP, LCA, and Stargardt disease, as well as dry AMD. Our modifier gene therapy platform is based on the use of NHRs, which have the potential to restore homeostasis—the basic biological processes in the retina. Unlike single-gene replacement therapies, which only target one genetic mutation, we believe that our modifier gene therapy platform, through its use of NHRs, represents a novel approach that has the potential both to address multiple retinal diseases caused by mutations in multiple genes with a gene-agnostic therapy and to address complex diseases that are potentially caused by imbalances in multiple gene networks.

IRDs, such as RP and LCA, can lead to visual impairment and blindness. RP and LCA are associated with over 125 mutated genes that affect over 1.6 million individuals worldwide. We believe that OCU400 has the potential to be broadly effective in restoring retinal integrity and function across a range of genetically diverse IRDs, including RP and LCA. OCU400 has received ODD from the FDA and OMPD from the EC for the treatment of RP and LCA. We believe these broad ODD and OMPD designations demonstrate that OCU400 has the potential to be a broad-spectrum therapeutic to treat multiple IRDs. These ODD and OMPD designations represent gene-agnostic broad coverage for RP and LCA and are not mutation-specific designations.

We are conducting a Phase 1/2 trial to assess the safety and efficacy of unilateral subretinal administration of OCU400 in patients with *NR2E3* and *RHO*-related *RP* and *CEP290*-related LCA in the United States. We have completed dosing adult RP patients in the dose-escalation portion of the trial, which enrolled 10 patients to receive a low, medium, or high dose of OCU400 in the subretinal space. Additionally, we have completed dosing eight adult RP patients with the high dose, which was determined to be the maximum tolerable dose from the dose-escalation portion of the trial. We are continuing to enroll adult

LCA patients to receive the medium dose based on the nature of the disease for this subset of the patient population. In April 2023, we announced positive preliminary data among adult RP patients treated in the first two cohorts of the Phase 1/2 trial. In Cohorts 1 and 2 of the trial, seven participants with severe vision impairment due to RP associated with the *RHO* and *NR2E3* gene mutations received a unilateral subretinal injection of either a low dose (1.66×10^{10} vg/mL) or a medium dose (3.33×10^{10} vg/mL) of OCU400, respectively. In the preliminary data analysis, the nine-month follow-up data for three patients and six-month follow-up data for four patients were evaluated. The preliminary results showed a favorable safety profile and visual improvements after treatment with OCU400 as measured by MLMT and BCVA. Over 70% of OCU400 treated eyes in low and medium dose cohorts demonstrated at least one Lux luminance level improvement in MLMT score and 67% of OCU400 treated eyes in the low dose cohort at the nine-month follow-up demonstrated at least two Lux luminance level improvement in MLMT score. Over 40% of OCU400 treated eyes demonstrated 8-11 letters of improvement as measured in BCVA score. Additionally, we are continuing to enroll pediatric patients in the ongoing Phase 1/2 trial for the treatment of RP and LCA. We also intend to initiate a Phase 3 trial for OCU400 for the treatment of RP and LCA near the end of 2023/early 2024, subject to the outcome of the ongoing Phase 1/2 trial and discussions with the FDA on the proposed Phase 3 trial plan.

We are also developing OCU410 and OCU410ST, utilizing the nuclear receptor genes *RORA*, for the treatment of dry AMD and Stargardt disease, respectively. OCU410 is a potential one-time, curative therapy with a single sub-retinal injection. OCU410ST has received ODD from the FDA for the treatment of *ABCA4*-associated retinopathies, including Stargardt disease. We submitted IND applications to the FDA for both OCU410 and OCU410ST in the second quarter of 2023. The FDA cleared our IND applications, and we intend to initiate Phase 1/2 trials by the end of 2023.

Regenerative Medicine Cell Therapy Platform

NeoCart is a Phase 3-ready, regenerative medicine cell therapy technology that combines breakthroughs in bioengineering and cell processing to enhance the autologous cartilage repair process. NeoCart is a three-dimensional tissue-engineered disc of new cartilage that is manufactured by growing chondrocytes, the cells responsible for maintaining cartilage health. The chondrocytes are derived from the patient on a unique scaffold. In this therapy, healthy cartilage tissue is grown and implanted in the patient. Cartilage defects often lead to osteoarthritis if left untreated. Current surgical and nonsurgical treatment options are limited in their efficacy and durability. NeoCart has the potential to accelerate healing, reduce pain, and provide regenerative native-like cartilage strength with durable benefits post transplantation. The FDA granted a RMAT designation to NeoCart for the repair of full-thickness lesions of knee cartilage injuries in adults. Additionally, we received concurrence from the FDA on the confirmatory Phase 3 trial design. We are renovating an existing facility into a current GMP facility in accordance with the FDA's regulations in support of NeoCart manufacturing for personalized Phase 3 trial material. We intend to initiate the Phase 3 trial in the second half of 2024.

Inhaled Mucosal Vaccine Platform

We are developing a next-generation, inhalation-based mucosal vaccine platform based on the ChAd vector, which includes OCU500, a bivalent COVID-19 vaccine; OCU510, a seasonal quadrivalent flu vaccine; and OCU520, a combination quadrivalent seasonal flu and bivalent COVID-19 vaccine. Our inhaled mucosal vaccine platform is driven by our conviction to serve a public health concern, which requires the endorsement and support of government funding, both domestically and with respect to in-licensed territories abroad, in order to develop and ultimately commercialize our vaccine candidates. As these vaccine candidates are being developed to be administered via inhalation, we believe they have the potential to generate rapid local immunity in the upper airways and lungs, where viruses enter and infect the body. We believe this unique delivery method may help reduce or prevent infection and transmission as well as provide protection against new virus variants. We are continuing the internal development of the inhaled mucosal vaccine platform to achieve IND readiness and intend to submit an IND application in 2024, provided we receive government funding. We have submitted multiple proposals to obtain government funding and we are continuing discussions with relevant government agencies regarding developmental funding for our inhaled mucosal vaccine platform.

Novel Biologic Therapy for Retinal Diseases

We are developing OCU200, which is a novel fusion protein containing parts of human transferrin and tumstatin. OCU200 is designed to treat DME, DR, and wet AMD. We have completed the technology transfer of manufacturing processes to our CDMO and have produced trial materials to initiate a Phase 1 trial. In April 2023, the FDA placed our IND application to initiate a Phase 1 trial targeting DME on clinical hold, as part of the FDA's request for additional information related to CMC. We are working to provide the FDA with the requested information as promptly as possible and do not currently expect the clinical hold to impact the anticipated overall timing of the OCU200 clinical development program.

Results of Operations

Comparison of the Three Months Ended June 30, 2023 and 2022

The following table summarizes the results of our operations for the three months ended June 30, 2023 and 2022 (in thousands):

	Three months ended June 30,		
	2023	2022	Change
Operating expenses			
Research and development	$ 14,169	$ 9,007	$ 5,162
General and administrative	9,564	10,558	(994)
Total operating expenses	23,733	19,565	4,168
Loss from operations	(23,733)	(19,565)	(4,168)
Other income (expense), net	808	94	714
Net loss	$ (22,925)	$ (19,471)	$ (3,454)

Research and development expense

Research and development expense increased by $5.2 million for the three months ended June 30, 2023 compared to the three months ended June 30, 2022. The increase was primarily driven by $4.5 million related to the impairment of the advanced payment for the supply of COVAXIN as well as the associated loss on the disposal of related fixed assets; $0.4 million in technical service costs related to the development of our modifier gene therapy platform; $0.4 million related to OCU410 and OCU410ST, driven by activities performed to achieve clinical-readiness; $0.4 million related to NeoCart, driven by CMC activities; and $0.3 million in employee-related expenses. These increases were partially offset by a decrease of $1.1 million in expenses related to OCU200, which is driven by a decrease in preclinical activities during the three months ended June 30, 2023.

General and administrative expense

General and administrative expense decreased by $1.0 million for the three months ended June 30, 2023 compared to the three months ended June 30, 2022. The decrease was primarily driven by a reduction of $1.1 million in non-recurring office expenses incurred in connection with the opening of our corporate headquarters and $0.4 million in pre-commercial expenses, both of which were incurred during the three months ended June 30, 2022. These decreases were partially offset by an increase of $0.7 million in employee-related expenses, including $0.5 million in stock-based compensation expense, during the three months ended June 30, 2023.

Other income (expense), net

Other income (expense), net increased by $0.7 million for the three months ended June 30, 2023 compared to the three months ended June 30, 2022. The increase was primarily driven by an increase of $0.4 million in interest earned on our cash and cash equivalents balance and $0.3 million in co-development activities related to the development of our modifier gene therapy platform.

Comparison of the Six Months Ended June 30, 2023 and 2022

The following table summarizes the results of our operations for the six months ended June 30, 2023 and 2022 (in thousands):

	Six months ended June 30,		
	2023	2022	Change
Operating expenses			
Research and development	$ 23,727	$ 16,922	$ 6,805
General and administrative	17,757	20,677	(2,920)
Total operating expenses	41,484	37,599	3,885
Loss from operations	(41,484)	(37,599)	(3,885)
Other income (expense), net	2,061	109	1,952
Net loss	$ (39,423)	$ (37,490)	$ (1,933)

Research and development expense

Research and development expense increased by $6.8 million for the six months ended June 30, 2023 compared to the six months ended June 30, 2022. The increase was primarily driven by $4.8 million in expenses related to COVAXIN, due to the impairment of the advanced payment for the supply of COVAXIN as well as the associated loss on the disposal of related fixed assets and an increase in clinical expenses, which was offset by a decrease in CMC activities; $1.3 million in technical service costs related to the development of our modifier gene therapy platform; $1.0 million in employee-related expenses; $0.7 million related to NeoCart, driven by CMC activities; $0.4 million related to OCU410 and OCU410ST, driven by activities performed to achieve clinical-readiness; and $0.3 million in professional service costs. These increases were partially offset by a decrease of $2.2 million related to OCU200, which is driven by a decrease in preclinical activities during the six months ended June 30, 2023 .

General and administrative expense

General and administrative expense decreased by $2.9 million for the six months ended June 30, 2023 compared to the six months ended June 30, 2022. The decrease was primarily driven by a reduction of $1.2 million in professional service costs resulting from a decrease in consulting fees, which was partially offset by an increase in legal expenses; $1.2 million in pre-commercial expenses, and $1.1 million in non-recurring office expenses incurred in connection with the opening of our corporate headquarters, all of which were incurred during the six months ended June 30, 2022. These decreases were partially offset by an increase of $1.0 million in employee-related expenses, which was incurred during the six months ended June 30, 2023.

Other income (expense), net

Other income (expense), net increased by $2.0 million for the six months ended June 30, 2023 compared to the six months ended June 30, 2022. The increase was primarily driven by an increase of $1.1 million in interest earned on our cash and cash equivalents balance and $0.9 million in co-development activities related to the development of our modifier gene therapy platform.

Liquidity and Capital Resources

As of June 30, 2023, we had $70.6 million in cash and cash equivalents. We have not generated revenue from our product candidates to date, and have primarily funded our operations to date through the sale of common stock, warrants to purchase common stock, the issuance of convertible notes and debt, and grant proceeds. Since our inception and through June 30, 2023, we have raised an aggregate of $301.0 million to fund our operations, of which $287.2 million was from gross proceeds from the sale of our common stock and warrants, $10.3 million was from the issuance of convertible notes, $3.3 million was from the issuance of debt, and $0.2 million was from grant proceeds.

During the three and six months ended June 30, 2023, we issued and sold 30.0 million shares of our common stock at a public offering price of $0.50 per share pursuant to the May 2023 Public Offering. We received net proceeds of $14.8 million after deducting equity issuance costs.

During the six months ended June 30, 2023, we sold 4.5 million shares of our common stock under the Sales Agreement and received net proceeds of $5.6 million after deducting equity issuance costs of $0.2 million. The Sales Agreement was terminated in February 2023.

Since our inception, we have devoted substantial resources to research and development and have incurred significant net losses and may continue to incur net losses in the future. We incurred net losses of approximately $39.4 million and $37.5 million for the six months ended June 30, 2023 and 2022, respectively. As of June 30, 2023, we had an accumulated deficit of $252.4 million. In addition, we had accounts payable and accrued expenses and other current liabilities of $11.7 million and indebtedness of $2.7 million.

The following table provides a summary of our cash flows for the six months ended June 30, 2023 and 2022 (in thousands):

	Six months ended June 30,	
	2023	2022
Net cash used in operating activities	$ (37,046)	$ (28,863)
Net cash provided by (used in) investing activities	9,164	(1,589)
Net cash provided by financing activities	20,900	50,338
Effect of changes in exchange rate on cash and cash equivalents	(3)	10
Net (decrease) increase in cash and cash equivalents	$ (6,985)	$ 19,896

Operating activities

Cash used in operating activities was $37.0 million for the six months ended June 30, 2023 compared to $28.9 million for the six months ended June 30, 2022. The increase in cash used in operating activities was primarily driven by increases in our operating expenses related to the continued development of our product candidates and employee-related expenses. These increases were partially offset by decreases in professional service costs and office expenses incurred in connection with the opening of our corporate headquarters, both of which were incurred during the six months ended June 30, 2022.

Investing activities

Cash provided by investing activities was $9.2 million for the six months ended June 30, 2023 compared to cash used in investing activities of $1.6 million for the six months ended June 30, 2022. The increase in cash provided by investing activities was primarily driven by gross proceeds of $17.5 million from the maturities of marketable securities, classified as available-for-sale, during the six months ended June 30, 2023. This increase was partially offset by purchases of $3.9 million of marketable securities, classified as available-for-sale, during the six months ended June 30, 2023 and an increase of $2.8 million in purchases of property and equipment during the six months ended June 30, 2023.

Financing activities

Cash provided by financing activities was $20.9 million for the six months ended June 30, 2023 compared to $50.3 million for the six months ended June 30, 2022. During the six months ended June 30, 2023, cash provided by financing activities primarily consisted of gross proceeds of a combined $20.7 million received from the May 2023 Public Offering and pursuant to the Sales Agreement. During the six months ended June 30, 2022, cash provided financing activities primarily consisted of gross proceeds of $50.0 million received from the underwritten offering that closed in February 2022.

Contractual Obligations

We have commitments under certain licensing and development agreements, lease obligations, and debt agreements. As previously disclosed in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2023 (the "First Quarter 10-Q"), we determined it is no longer commercially viable to further the development of COVAXIN, a monovalent COVID-19 vaccine, in our North American territories as the FDA cancelled all EUAs issued with respect to monovalent COVID-19 vaccine formulations. Accordingly, as of June 30, 2023, the Canada Consulting Agreement was terminated by mutual agreement (see Note 10). Additionally, we do not expect to fulfill any remaining commitments pursuant to the Covaxin Agreement with Bharat Biotech as a result of our decision to terminate the COVAXIN program. Except for the termination of the Canada Consulting Agreement, there have been no material changes to our contractual obligations as reported in our 2022 Annual Report.

Funding requirements

We expect to continue to incur significant expenses in connection with our ongoing activities, particularly as we continue research and development, including preclinical and clinical development of our product candidates; prepare to manufacture our product candidates; prepare for the potential commercialization of our product candidates; add operational, financial, and information systems to execute our business plan; maintain, expand, and protect our patent portfolio; explore strategic licensing, acquisition, and collaboration opportunities to expand our product candidate pipeline to support our future growth; expand headcount to support our development, commercialization, and business efforts; and operate as a public company.

Factors impacting our future funding requirements include, without limitation, the following:

- the initiation, progress, timing, costs, and results of trials for our product candidates;
- the outcome, timing, and cost of the regulatory approval process for our product candidates;
- the costs of manufacturing and commercialization;
- the costs related to doing business internationally with respect to the development and commercialization of our product candidates;
- the general and administrative impacts of the recent transition in our management and other general and administrative related expenses;
- the cost of filing, prosecuting, defending, and enforcing our patent claims and other intellectual property rights;
- the cost of defending intellectual property disputes, including patent infringement actions brought by third parties against us;
- the costs of expanding infrastructure to support our development, commercialization, and business efforts, including the costs related to the development of a laboratory and manufacturing facility;
- the costs involved in recruiting and retaining skilled personnel;
- the extent to which we in-license or acquire other products, product candidates, or technologies and out-license our product candidates; and
- the impacts of geopolitical turmoil, macroeconomic conditions, social unrest, political instability, terrorism, or other acts of war.

As of June 30, 2023, we had cash and cash equivalents of approximately $70.6 million. This amount will not meet our capital requirements for the next 12 months after the date that the condensed consolidated financial statements are issued. Due to the inherent uncertainty involved in making estimates and the risks associated with the research, development, and commercialization of biotechnology products, we may have based this estimate on assumptions that may prove to be wrong, and our operating plan may change as a result of many factors currently unknown to us. We will need to raise significant additional capital in order to fund our operations until we recognize significant revenue from product sales. Our management is currently evaluating different strategies to obtain the funding required for our future operations. These strategies may include, but are not limited to: public and private placements of equity and/or debt, payments from potential strategic research and development arrangements, sales of assets, licensing and/or collaboration arrangements with pharmaceutical companies or other institutions, funding from the government, particularly for the development of our novel inhaled mucosal vaccine platform, or funding from other third parties. Our ability to secure funding is subject to numerous risks and uncertainties, including, but not limited to the impact of the geopolitical turmoil, including the ongoing invasion of Ukraine by Russia, macroeconomic conditions, and the impact of inflation and as a result, there can be no assurance that these funding efforts will be successful. If we cannot obtain the necessary funding, we will need to delay, scale back, or eliminate some or all of our research and development programs and commercialization efforts; consider other various strategic alternatives, including a merger or sale; or cease operations. If we cannot expand our operations or otherwise capitalize on our business opportunities because we lack sufficient capital, our business, financial condition, and results of operations could be materially adversely affected.

As a result of these factors, together with the anticipated continued spending that will be necessary to continue to research, develop, and commercialize our product candidates, there is substantial doubt about our ability to continue as a going concern within one year after the date that the condensed consolidated financial statements are issued.

Off-Balance Sheet Arrangements

We did not have any off-balance sheet arrangements during the periods presented, and we do not currently have any off-balance sheet arrangements as defined in the rules and regulations of the SEC.

Critical Accounting Policies and Significant Judgments and Estimates

The preparation of financial statements in conformity with GAAP requires us to make judgments, estimates, and assumptions in the preparation of our condensed consolidated financial statements. Actual results could differ from those estimates. There have been no material changes to our critical accounting policies and estimates as reported in our 2022 Annual Report.

Recently Adopted Accounting Pronouncements

For a discussion of recently adopted accounting pronouncements, see Note 2 in the notes to the condensed consolidated financial statements included in this Quarterly Report on Form 10-Q.

Other Company Information

None.

Item 3. Quantitative and Qualitative Disclosures about Market Risk.

Not applicable.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

We have carried out an evaluation, under the supervision and with the participation of our management, including our principal executive officer who is also our interim principal financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), as of June 30, 2023. Based upon this evaluation, our principal executive officer/interim principal financial officer concluded that, as of the end of the period covered by this report, our disclosure controls and procedures are effective in ensuring that (a) the information required to be disclosed by us in the reports that 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, and (b) such information is accumulated and communicated to our management, including our principal executive officer/interim principal financial officer, as appropriate to allow timely decisions regarding required disclosures. In designing and evaluating our disclosure controls and procedures, our management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and our management necessarily was required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Changes in Internal Control Over Financial Reporting

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 period covered by this report that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1. Legal Proceedings.

For a discussion of legal proceedings, see Note 13 in the notes to the condensed consolidated financial statements included in this Quarterly Report on Form 10-Q.

Item 1A. Risk Factors.

Except as set forth in our First Quarter 10-Q, there have been no material changes in our risk factors as previously disclosed in our 2022 Annual Report. The risks described in our 2022 Annual Report and our First Quarter 10-Q are not the only risks we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial may also materially adversely affect our business, financial condition, or future results.

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

During the period covered by this Quarterly Report on Form 10-Q, there were no sales by us of unregistered securities or purchases of equity securities by us that were not previously reported by us in a Current Report on Form 8-K.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

Appointment of Interim Chief Accounting Officer

On August 17, 2023, our Board of Directors (the "Board") appointed Ramesh Kumar, Ph.D., a director of our Board, as our Interim Chief Accounting Officer, effective as of August 17, 2023. As compensation for this role, Dr. Kumar will receive a weekly cash payment in the amount of approximately $11,850, representing an annualized base salary of $425,000, plus an annualized cash bonus equal to 45% of Dr. Kumar's base salary. Dr. Kumar will continue to serve as a director, but will not receive any compensation for his services as a director under our Director Compensation Policy while he is serving as the Interim Chief Accounting Officer or for so long as he is otherwise employed by us.

Ramesh Kumar, Ph.D., 68, has been a director since 2019, and previously served as Chair of the Audit Committee since 2019. He co-founded Onconova Therapeutics, Inc. in 1998 and served as its Chief Executive Officer and a member of its board from December 1998 to February 2019 and as its President from 1998 to June 2018. Dr. Kumar previously held positions in research and development and management at Princeton University, Bristol-Myers Squibb, DNX Corporation (later Nextran, a subsidiary of Baxter International Inc.), and Kimeragen, Inc. (later Valigen S.A.), where he served as President of the Genomics and Transgenics Division. Dr. Kumar obtained bachelor's and master's degrees in microbiology from Panjab University and received his Ph.D. in Molecular Biology from the University of Illinois, Chicago and trained at the National Cancer Institute.

There are no arrangements or understandings between Dr. Kumar, on the one hand, and any other persons, on the other hand, pursuant to which Dr. Kumar was appointed as our Interim Chief Accounting Officer. Dr. Kumar does not have a family relationship with any of our directors or executive officers. Furthermore, there are no transactions between Dr. Kumar and us that would be required to be reported under Item 404(a) of Regulation S-K of the Exchange Act, other than in connection with our payment to Dr. Kumar in connection with his services as a director.

On August 17, 2023, in connection with Dr. Kumar's appointment as Interim Chief Accounting Officer, the Board reconstituted the Audit Committee of the Board, so that it consists entirely of independent directors. Following the reconstitution, the new members of the Audit Committee are: Marna C. Whittington, Ph.D. (Chair), Kirsten Castillo, MBA, and Prabhavathi Fernandes, Ph.D.

Approval of Second Amended and Restated Bylaws

On August 18, 2023, in connection with the effectiveness of new SEC rules regarding universal proxy cards and a periodic review of our Amended and Restated Bylaws, our Board of Directors approved and adopted the Second Amended and Restated Bylaws (the "Amended Bylaws"), effective August 18, 2023. The amendments address matters relating to Rule 14a-19 under the Exchange Act (the "Universal Proxy Rules"), providing, among other things, that:

1. a stockholder delivering a notice of nomination must include a representation that it intends to solicit proxies from stockholders representing at least 67% of the voting power of shares entitled to vote on the election of directors;

2. a stockholder delivering a notice of nomination must certify to the Company in writing that it has complied with the Universal Proxy Rules requirements;

3. the company may disqualify a stockholder’s nomination if such stockholder fails to satisfy the Universal Proxy Rules requirements;

4. a stockholder providing notice pursuant to the Company's advance notice bylaws must inform the Company if the stockholder no longer plans to solicit proxies in accordance with the Universal Proxy Rules; and

5. the stockholder must use a proxy card color other than white, which is reserved for the exclusive use of the Board of Directors.

The above description of the Amended Bylaws does not purport to be complete and is qualified in its entirety by reference to the full text of the Amended Bylaws, which is filed as Exhibit 3.1 hereto and incorporated herein by reference.

Item 6. Exhibits.

The exhibits listed below are filed or furnished in this Quarterly Report on Form 10-Q:

Exhibit	Description
3.1*	Second Amended and Restated Bylaws of Ocugen, Inc.
31.1*	Certification of the Chief Executive Officer and Interim Principal Financial Officer, as required by Section 302 of the Sarbanes-Oxley Act of 2002
32.1**	Certifications of the Chief Executive Officer and Interim Principal Financial Officer as required by 18 U.S.C. 1350
101.INS*	Inline XBRL Instance Document
101.SCH*	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	The cover page from this Quarterly Report on Form 10-Q, formatted in Inline XBRL

* Filed herewith.

** Furnished herewith.

SIGNATURES

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

Ocugen, Inc.

Dated: August 21, 2023

/s/ Shankar Musunuri

Shankar Musunuri, Ph.D., MBA
Chairman, Chief Executive Officer, & Co-Founder
(Principal Executive Officer and Interim Principal Financial Officer)

SECOND AMENDED AND RESTATED BYLAWS OF OCUGEN, INC.

A DELAWARE CORPORATION EFFECTIVE: AUGUST 18, 2023

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ARTICLE I
OFFICES AND RECORDS

Section 1.1 Delaware Office. The registered office of the Corporation in the State of Delaware shall be located in the City of Wilmington, County of New Castle.

Section 1.2 Other Offices. The Corporation may have such other offices, either within or without the State of Delaware, as the Board of Directors may designate or as the business of the Corporation may from time to time require.

Section 1.3 Books and Records. The books and records of the Corporation may be kept at the Corporation's headquarters in Waltham, Massachusetts or at such other locations outside the State of Delaware as may from time to time be designated by the Board of Directors.

ARTICLE II
STOCKHOLDERS

Section 2.1 Annual Meeting. The annual meeting of the stockholders of the Corporation shall be held at such date, place and/or time as may be fixed by resolution of the Board of Directors.

Section 2.2 Special Meeting. Special meetings of stockholders of the Corporation may be called only by the Chairman of the Board or the President or by the Board of Directors acting pursuant to a resolution adopted by a majority of the Whole Board. For purposes of these Amended and Restated Bylaws, the term "Whole Board" shall mean the total number of authorized directors whether or not there exist any vacancies in previously authorized directorships.

Section 2.3 Place of Meeting. The Board of Directors may designate the place of meeting for any meeting of the stockholders or the means of remote communications by which any meeting shall be held. If no designation is made by the Board of Directors, the place of meeting shall be the principal office of the Corporation.

Section 2.4 Notice of Meeting. Except as otherwise required by law, written, printed or electronic notice stating the place, if any, date and time of the meeting, the means of remote communications, if any, by which the stockholders and proxy holders may be deemed to be present in person and vote at such meeting, and in the case of a special meeting, the purposes for which the meeting is called shall be prepared and delivered by the Corporation not less than ten (10) days nor more than sixty (60) days before the date of the meeting, either personally, by mail, or in the case of stockholders who have consented to such delivery, by electronic transmission (as such term is defined in the Delaware General Corporation Law), to each stockholder of record entitled to vote at such meeting. If mailed, such notice shall be deemed to be delivered when deposited in the U.S. mail with postage thereon prepaid, addressed to the stockholder at his address as it appears on the stock transfer books of the Corporation. Notice given by electronic transmission shall be effective (A) if by facsimile, when faxed to a number where the stockholder has consented to receive notice; (B) if by electronic mail, when mailed electronically to an electronic mail address at which the stockholder has consented to receive such notice; (C) if by posting on an electronic network together with a separate notice of such posting, upon the later to occur of (1) the posting or (2) the giving of separate notice of the posting; or (D) if by other form of electronic communication, when directed to the stockholder in the manner consented to by the stockholder. Meetings may be held without notice if all stockholders entitled to vote are present (except as otherwise provided by law), or if notice is waived by those not present. Any previously scheduled meeting of the stockholders may be postponed and (unless the Corporation's Sixth Amended and Restated Certificate of Incorporation (the "**Certificate of Incorporation**") otherwise provides) any special meeting of the stockholders may be cancelled, by resolution of the Board of Directors upon public notice given prior to the time previously scheduled for such meeting of stockholders.

Section 2.5 Quorum and Adjournment.

A. Except as otherwise provided by law or by the Certificate of Incorporation, the holders of a majority of the voting power of the outstanding shares of the Corporation entitled to vote generally in the election of directors (the "**Voting Stock**"), represented in person or by proxy, shall constitute a quorum at a meeting of stockholders, except that when specified business is to be voted on by a class or series voting separately as a class or series, the holders of a majority of the voting power of the shares of such class or series shall constitute a quorum for the transaction of such business for the purposes of taking action on such business. If a quorum shall fail to attend any meeting, the chairman of the meeting may adjourn the meeting to another place, if any, date or time. No notice of an adjourned meeting need be given if the time, place, if any, and the means of remote communication, if any, by which stockholders and proxy holders may be deemed to be present and vote at such adjourned meeting are announced at the meeting at which the adjournment is taken; *provided* such adjournment is for not more than thirty (30) days and further provided that no new record date is fixed for the adjourned meeting.

Section 2.6 Proxies.

A. At all meetings of stockholders, a stockholder may vote by proxy executed in writing by the stockholder or as may be permitted by law, or by his duly authorized attorney-in-fact. Such proxy must be filed with the Secretary of the Corporation or his representative, or otherwise delivered telephonically or electronically as set forth in the applicable proxy statement, at or before the time of the meeting.

B. Any stockholder directly or indirectly soliciting proxies from other stockholders must use a proxy card color other than white, which shall be reserved for the exclusive use by the Board of Directors.

Section 2.7 Notice of Stockholder Business and Nominations.

A. Nominations of persons for election to the Board of Directors and the proposal of business to be transacted by the stockholders may be made at an annual meeting of stockholders (1) pursuant to the Corporation's notice with respect to such meeting, (2) by or at the direction of the Board of Directors or (3) by any stockholder of record of the Corporation who was a stockholder of record at the time of the giving of the notice provided for in the following paragraph, who is entitled to vote at the meeting and who has complied with the notice procedures set forth in this Section 2.7.

B. For nominations or other business to be properly brought before an annual meeting by a Proposing Person or Nominating Person pursuant to paragraph (A)(3) of this Section 2.7, (1) the Proposing Person or Nominating Person must have given timely notice thereof in writing to the Secretary of the Corporation, (2) such business must be a proper matter for stockholder action under the Delaware General Corporation Law, (3) if the Proposing Person or Nominating Person has provided the Corporation with a Solicitation Notice, as that term is defined in subclause (c)(iii) of this paragraph, such stockholder or beneficial owner must, in the case of a proposal, have delivered prior to the meeting a proxy statement and form of proxy to holders of at least the percentage of the Corporation's voting shares required under applicable law to carry any such proposal, or, in the case of a nomination or nominations, have delivered prior to the meeting a proxy statement and form of proxy to at least 67 percent of the voting power of all of the shares of capital stock of the Corporation entitled to vote on the election of directors, as required by Rule 14a-19, and must, in either case, have included in such materials the Solicitation Notice and (4) if no Solicitation Notice relating thereto has been timely provided pursuant to this section, the stockholder or beneficial owner proposing such business or nomination must not have solicited a number of proxies sufficient to have required the delivery of such a Solicitation Notice under this section. To be timely, a Proposing Person or Nominating Person's notice shall be delivered to the Secretary at the principal executive offices of the Corporation not less than forty-five (45) or more than seventy-five (75) days prior to the first anniversary (the "**Anniversary**") of the date on which the Corporation first mailed its proxy materials for the preceding year's annual meeting of stockholders; *provided*, *however*, that if no proxy materials were mailed by the Corporation in connection with the preceding year's annual meeting, or if the date of the annual meeting is advanced more than thirty (30) days prior to or delayed by more than thirty (30) days after the anniversary of the preceding year's annual meeting, notice by the stockholder to be timely must be so delivered not later than the close of business on the later of (x) the 90th day

prior to such annual meeting or (y) the 10th day following the day on which public announcement of the date of such meeting is first made. Such Proposing Person or Nominating Person's notice shall set forth (a) as to each person whom the stockholder proposes to nominate for election or reelection as a director all information relating to such person as would be required to be disclosed in solicitations of proxies for the election of such nominees as directors pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended (the "**Exchange Act**"), and such person's written consent to serve as a director if elected; (b) as to any other business that the stockholder proposes to bring before the meeting, a brief description of such business, the reasons for conducting such business at the meeting and any material interest in such business of such stockholder and the beneficial owner, if any, on whose behalf the proposal is made; and (c) as to the stockholder giving the notice and the beneficial owner, if any, on whose behalf the nomination or proposal is made (i) the name and address of such stockholder, as they appear on the Corporation's books, and of such beneficial owner, (ii) the class and number of shares of the Corporation that are owned beneficially and of record by such stockholder and such beneficial owner, and (iii) whether either such stockholder or beneficial owner intends to deliver a proxy statement and form of proxy to holders of, in the case of a proposal, at least the percentage of the Corporation's voting shares required under applicable law to carry the proposal or, in the case of a nomination or nominations, at least 67 percent of the voting power of all of the shares of capital stock of the Corporation entitled to vote on the election of directors (an affirmative statement of such intent, a "**Solicitation Notice**"). The Solicitation Notice shall also include a representation as to whether or not such Proposing Person or Nominating Person intends to solicit proxies in support of director nominees other than the Corporation's director nominees in accordance with Rule 14a-19 promulgated under the Exchange Act. Notwithstanding the foregoing, if a Proposing Person or Nominating Person no longer plans to solicit proxies in accordance with its representation pursuant to this Article II, Section 2.7(B), such Proposing Person or Nominating Person shall inform the Corporation of this change by delivering a written notice to the Secretary at the principal executive offices of the Corporation no later than two (2) business days after making the determination not to proceed with a solicitation of proxies. The term "**Nominating Person**" shall mean (a) the stockholder providing the notice of nomination proposed to be made at the meeting, (b) the beneficial owner or beneficial owners, if different, on whose behalf the notice of the nomination proposed to be made at the meeting is made, and (c) any other participant in such solicitation. The term "**Proposing Person**" shall mean (a) the stockholder providing the notice of business proposed to be brought before an annual meeting, (b) the beneficial owner or beneficial owners, if different, on whose behalf the notice of the business proposed to be brought before the annual meeting is made, and (c) any other participant in such solicitation.

C. Notwithstanding anything in the second sentence of paragraph (B) of this Section 2.7 to the contrary, in the event that the number of directors to be elected to the Board of Directors is increased and there is no public announcement naming all of the nominees for director or specifying the size of the increased Board of Directors made by the Corporation at least fifty-five (55) days prior to the Anniversary, a stockholder's notice required by this Bylaw shall also be considered timely, but only with respect to nominees for any new positions created by such increase, if it shall be delivered to the Secretary at the principal executive offices of the Corporation not later than the close of business on the 10th day following the day on which such public announcement is first made by the Corporation.

D. Only persons nominated in accordance with the procedures set forth in this Section 2.7 shall be eligible to serve as directors and only such business shall be conducted at an annual meeting of stockholders as shall have been brought before the meeting in accordance with the procedures set forth in this Section 2.7. Each Nominating Person shall comply with all applicable requirements of the Exchange Act and the rules and regulations thereunder, including, but not limited to, Rule 14a-19 of the Exchange Act, with respect to any such nominations. If a stockholder fails to comply with any applicable requirements of the Exchange Act, including, but not limited to, Rule 14a-19 promulgated thereunder, such stockholder's proposed nomination shall be deemed to have not been made in compliance with these Bylaws and shall be disregarded. The chair of the meeting shall have the power and the duty to determine whether a nomination or any business proposed to be brought before the meeting has been made in accordance with the procedures set forth in these Bylaws and, if any proposed nomination or business is not in compliance with these Bylaws, to declare that such defective proposed business or nomination shall not be presented for stockholder action at the meeting and shall be disregarded.

E. Only such business shall be conducted at a special meeting of stockholders as shall have been brought before the meeting pursuant to the Corporation's notice of meeting. Nominations of persons for election to the Board of Directors may be made at a special meeting of stockholders at which directors are to be elected pursuant to the Corporation's notice of meeting (1) by or at the direction of the Board of Directors or (2) by any stockholder of record of the Corporation who is a stockholder of record at the time of giving of notice provided for in this paragraph, who shall be entitled to vote at the meeting and who complies with the notice procedures set forth in this Section 2.7. Nominations by stockholders of persons for election to the Board of Directors may be made at such a special meeting of stockholders if the stockholder's notice required by paragraph (B) of this Section 2.7 shall be delivered to the Secretary at the principal executive offices of the Corporation not later than the close of business on the later of the 90th day prior to such special meeting or the 10th day following the day on which public announcement is first made of the date of the special meeting and of the nominees proposed by the Board of Directors to be elected at such meeting.

F. For purposes of this Section 2.7, "public announcement" shall mean disclosure in a press release reported by the Dow Jones News Service, Associated Press or a comparable national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15(d) of the Exchange Act.

G. Notwithstanding the foregoing provisions of this Section 2.7, a stockholder shall also comply with all applicable requirements of the Exchange Act and the rules and regulations thereunder with respect to matters set forth in this Section 2.7. Nothing in this Section 2.7 shall be deemed to affect any rights of stockholders to request inclusion of proposals in the Corporation's proxy statement pursuant to Rule 14a-8 under the Exchange Act.

H. Further notwithstanding the foregoing provisions of these Bylaws, unless otherwise required by law, (i) no Nominating Person shall solicit proxies in support of director nominees other than the Corporation's nominees unless such Nominating Person has complied with Rule 14a-19 promulgated under the Exchange Act in connection with the solicitation of such proxies, including the provision to the Corporation of notices required thereunder with timely notice, and (ii) if any Nominating Person (A) provides notice pursuant to Rule 14a-19(b) promulgated under the Exchange Act, (B) subsequently fails to comply with the requirements of Rule 14a-19(a)(2) or Rule 14a-19(a)(3) promulgated under the Exchange Act, including the provision to the Corporation of notices required thereunder with timely notice, and (C) no other Nominating Person has provided notice pursuant to, and in compliance with, Rule 14a-19 under the Exchange Act that it intends to solicit proxies in support of the election of such proposed nominee in accordance with Rule 14a-19(b) under the Exchange Act, then such proposed nominee shall be disqualified from nomination, the Corporation shall disregard the nomination of such proposed nominee and no vote on the election of such proposed nominee shall occur. Upon request by the Corporation, if any Nominating Person provides notice pursuant to Rule 14a-19(b) promulgated under the Exchange Act, such Nominating Person shall deliver to the Corporation, no later than five (5) business days prior to the applicable meeting date, reasonable evidence that it has met the requirements of Rule 14a-19(a)(3) promulgated under the Exchange Act.

Section 2.8 Procedure for Election of Directors. Election of directors at all meetings of the stockholders at which directors are to be elected shall be by written ballot, and, except as otherwise set forth in the Certificate of Incorporation with respect to the right of the holders of any series of Preferred Stock or any other series or class of stock to elect additional directors under specified circumstances, a plurality of the votes cast thereat shall elect directors. Except as otherwise provided by law, the Certificate of Incorporation or these Bylaws, all matters other than the election of directors submitted to the stockholders at any meeting shall be decided by the affirmative vote of a majority of the voting power of the outstanding Voting Stock present in person or represented by proxy at the meeting and entitled to vote thereon.

Section 2.9 Inspectors of Elections. The Board of Directors by resolution may, and to the extent required by law, shall appoint one or more inspectors, which inspector or inspectors may include individuals who serve the Corporation in other capacities, including, without limitation, as officers, employees, agents or representatives of the Corporation, to act at the meeting and make a written report thereof. One or more persons

may be designated as alternate inspectors to replace any inspector who fails to act. If no inspector or alternate has been appointed to act, or if all inspectors or alternates who have been appointed are unable to act, at a meeting of stockholders, the chairman of the meeting may, and to the extent required by law, shall appoint one or more inspectors to act at the meeting. Each inspector, before discharging his or her duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of his or her ability. The inspectors shall have the duties prescribed by the Delaware General Corporation Law.

Section 2.10 Conduct of Meetings.

A. The President and Chief Executive Officer shall preside at all meetings of the stockholders. In the absence of the President and Chief Executive Officer, the Chairman of the Board shall preside at a meeting of the stockholders. In the absence of both the President and Chief Executive Officer and the Chairman of the Board, the Secretary shall preside at a meeting of the stockholders. In the anticipated absence of all officers designated to preside over the meetings of stockholders, the Board of Directors may designate an individual to preside over a meeting of the stockholders.

B. The chairman of the meeting shall fix and announce at the meeting the date and time of the opening and the closing of the polls for each matter upon which the stockholders will vote at a meeting. The chairman shall have the power to adjourn the meeting to another place, if any, date and time.

C. The Board of Directors may, to the extent not prohibited by law, adopt by resolution such rules and regulations for the conduct of the meeting of stockholders as it shall deem appropriate. Except to the extent inconsistent with such rules and regulations as adopted by the Board of Directors, the chairman of any meeting of stockholders shall have the right and authority to prescribe such rules, regulations and procedures and to do all such acts as, in the judgment of such chairman, are appropriate for the proper conduct of the meeting. Such rules, regulations or procedures, whether adopted by the Board of Directors or prescribed by the chairman of the meeting, may to the extent not prohibited by law include, without limitation, the following: (i) the establishment of an agenda or order of business for the meeting; (ii) rules and procedures for maintaining order at the meeting and the safety of those present; (iii) limitations on attendance at or participation in the meeting to stockholders of record of the Corporation, their duly authorized and constituted proxies or such other persons as the chairman of the meeting shall determine; (iv) restrictions on entry to the meeting after the time fixed for the commencement thereof and (v) limitations on the time allotted to questions or comments by participants. Unless, and to the extent, determined by the Board of Directors or the chairman of the meeting, meetings of stockholders shall not be required to be held in accordance with the rules of parliamentary procedure.

Section 2.11 No Consent of Stockholders in Lieu of Meeting. Subject to the rights of the holders of any series of Preferred Stock, any action required or permitted to be taken by the stockholders of the Corporation must be effected at a duly called annual or special meeting of stockholders of the Corporation and may not be effected by any consent in writing by such stockholders.

Article III
BOARD OF DIRECTORS

Section 3.1 General Powers. The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors. In addition to the powers and authority expressly conferred upon them by statute or by the Certificate of Incorporation or by these Bylaws, the directors are hereby empowered to exercise all such powers and do all such acts and things as may be exercised or done by the Corporation.

Section 3.2 Number, Tenure and Qualifications. Subject to the rights of the holders of any series of Preferred Stock to elect additional directors under specified circumstances, the number of directors shall be fixed from time to time exclusively by the Board of Directors pursuant to a resolution adopted by a majority of the Whole Board. The directors, other than those who may be elected by the holders of any series of Preferred Stock under specified circumstances, shall be divided into three classes pursuant to the Certificate of Incorporation. At each annual meeting of stockholders, directors elected to succeed those directors whose terms expire shall be elected for a

term of office to expire at the third succeeding annual meeting of stockholders after their election. The foregoing notwithstanding, each director shall serve until such director's successor shall have been duly elected and qualified, or until such director's prior death, resignation, retirement, disqualification or other removal. The Board of Directors is authorized to assign members of the Board of Directors already in office to such classes as it may determine at the time the classification of the Board of Directors becomes effective.

Section 3.3 Regular Meetings. The Board of Directors may, by resolution, provide the time and place for the holding of regular meetings of the Board of Directors. A notice of each regular meeting shall not be required.

Section 3.4 Special Meetings. Special meetings of the Board of Directors shall be called at the request of the Chairman of the Board, the Chief Executive Officer or a majority of the Board of Directors. The person or persons authorized to call special meetings of the Board of Directors may fix the place and time of the meetings, and the writing or transmission shall be filed with the minutes of proceedings of the Board of Directors.

Section 3.5 Action By Unanimous Consent of Directors. The Board of Directors may take action without the necessity of a meeting by unanimous consent of directors. Such consent may be in writing or given by electronic transmission, as such term is defined in the Delaware General Corporation Law.

Section 3.6 Notice. Notice of any special meeting shall be given to each director at his business or residence in writing, or by telegram, facsimile transmission, telephone communication or electronic transmission (provided, with respect to electronic transmission, that the director has consented to receive the form of transmission at the address to which it is directed). If mailed, such notice shall be deemed adequately delivered when deposited in the United States mails so addressed, with postage thereon prepaid, at least five (5) days before such meeting. If by telegram, such notice shall be deemed adequately delivered when the telegram is delivered to the telegraph company at least twenty-four (24) hours before such meeting. If by facsimile transmission or other electronic transmission, such notice shall be transmitted at least twenty-four (24) hours before such meeting. If by telephone, the notice shall be given at least twelve (12) hours prior to the time set for the meeting. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the Board of Directors need be specified in the notice of such meeting, except for amendments to these Bylaws as provided under Section 8.1 of Article VIII hereof. A meeting may be held at any time without notice if all the directors are present (except as otherwise provided by law) or if those not present waive notice of the meeting in writing or by electronic transmission, either before or after such meeting.

Section 3.7 Conference Telephone Meetings. Members of the Board of Directors, or any committee thereof, may participate in a meeting of the Board of Directors or such committee by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting shall constitute presence in person at such meeting.

Section 3.8 Quorum. A whole number of directors equal to at least a majority of the Whole Board shall constitute a quorum for the transaction of business, but if at any meeting of the Board of Directors there shall be less than a quorum present, a majority of the directors present may adjourn the meeting from time to time without further notice. The act of the majority of the directors present at a meeting at which a quorum is present shall be the act of the Board of Directors.

Section 3.9 Vacancies. Subject to the rights of the holders of any series of Preferred Stock then outstanding, newly created directorships resulting from any increase in the authorized number of directors or any vacancies in the Board of Directors resulting from death, resignation, retirement, disqualification, removal from office or other cause shall, unless otherwise provided by law or by resolution of the Board of Directors, be filled only by a majority vote of the directors then in office, though less than a quorum (and not by stockholders), and directors so chosen shall hold office for a term expiring at the annual meeting of stockholders at which the term of office of the class to which they have been chosen expires or until such director's successor has been duly elected and qualified. No decrease in the authorized number of directors shall shorten the term of any incumbent director.

Section 3.10 Committees.

A. The Board of Directors may designate one or more committees, each committee to consist of one or more of the directors of the Corporation. The Board of Directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of the committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not he or they constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in place of any such absent or disqualified member. Any such committee, to the extent permitted by law and to the extent provided in the resolution of the Board of Directors, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it; *provided*, *however*, that no committee shall have power or authority in reference to the following matters: (1) approving, adopting or recommending to stockholders any action or matter required by law to be submitted to stockholders for approval or (2) adopting, amending or repealing any bylaw.

B. Unless the Board of Directors otherwise provides, each committee designated by the Board of Directors may make, alter and repeal rules for the conduct of its business. In the absence of such rules each committee shall conduct its business in the same manner as the Board of Directors conducts its business pursuant to these Bylaws.

Section 3.11 Removal. Subject to the rights of the holders of any series of Preferred Stock then outstanding, any director, or the entire Board of Directors, may be removed from office at any time, but only for cause and only by the affirmative vote of the holders of at least two-thirds of the voting power of all of the then-outstanding shares of capital stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class.

ARTICLE IV
OFFICERS

Section 4.1 Elected Officers. The elected officers of the Corporation shall be a Chairman of the Board, a President, a Secretary, a Treasurer, and such other officers as the Board of Directors from time to time may deem proper. The Chairman of the Board shall be chosen from the directors. All officers chosen by the Board of Directors shall each have such powers and duties as generally pertain to their respective offices, subject to the specific provisions of this Article IV. Such officers shall also have powers and duties as from time to time may be conferred by the Board of Directors or by any committee thereof.

Section 4.2 Election and Term of Office. The elected officers of the Corporation shall be elected annually by the Board of Directors at the regular meeting of the Board of Directors held after each annual meeting of the stockholders. If the election of officers shall not be held at such meeting, such election shall be held as soon thereafter as convenient. Subject to Section 4.7 of these Bylaws, each officer shall hold office until his successor shall have been duly elected and shall have qualified or until his death or until he shall resign.

Section 4.3 Chairman of the Board. The Chairman of the Board shall preside at all meetings of the Board of Directors.

Section 4.4 President and Chief Executive Officer. The President and Chief Executive Officer shall be the general manager of the Corporation, subject to the control of the Board of Directors, and as such shall, subject to Section 2.10A hereof, preside at all meetings of stockholders, shall have general supervision of the affairs of the Corporation, shall sign or countersign or authorize another officer to sign all certificates, contracts, and other instruments of the Corporation as authorized by the Board of Directors, shall make reports to the Board of Directors and stockholders, and shall perform all such other duties as are incident to such office or are properly required by the Board of Directors. If the Board of Directors creates the office of Chief Executive Officer as a separate office from

President, the President shall be the chief operating officer of the corporation and shall be subject to the general supervision, direction, and control of the Chief Executive Officer unless the Board of Directors provides otherwise.

Section 4.5 Secretary. The Secretary shall give, or cause to be given, notice of all meetings of stockholders and directors and all other notices required by law or by these Bylaws, and in case of his absence or refusal or neglect so to do, any such notice may be given by any person thereunto directed by the Chairman of the Board or the President, or by the Board of Directors, upon whose request the meeting is called as provided in these Bylaws. The Secretary shall record all the proceedings of the meetings of the Board of Directors, any committees thereof and the stockholders of the Corporation in a book to be kept for that purpose, and shall perform such other duties as may be assigned to the Secretary by the Board of Directors, the Chairman of the Board or the President. The Secretary shall have custody of the seal of the Corporation and shall affix the same to all instruments requiring it, when authorized by the Board of Directors, the Chairman of the Board or the President, and attest to the same.

Section 4.6 Treasurer. The Treasurer shall have the custody of the corporate funds and securities and shall keep full and accurate receipts and disbursements in books belonging to the Corporation. The Treasurer shall deposit all moneys and other valuables in the name and to the credit of the Corporation in such depositaries as may be designated by the Board of Directors. The Treasurer shall disburse the funds of the Corporation as may be ordered by the Board of Directors the Chairman of the Board, or the President, taking proper vouchers for such disbursements. The Treasurer shall render to the Chairman of the Board, the President and the Board of Directors, whenever requested, an account of all his transactions as Treasurer and of the financial condition of the Corporation. If required by the Board of Directors, the Treasurer shall give the Corporation a bond for the faithful discharge of his duties in such amount and with such surety as the Board of Directors shall prescribe.

Section 4.7 Removal. Any officer elected by the Board of Directors may be removed by the Board of Directors at any time, with or without cause. No elected officer shall have any contractual rights against the Corporation for compensation by virtue of such election beyond the date of the election of his successor, his death, his resignation or his removal, whichever event shall first occur, except as otherwise provided in an employment contract or an employee plan.

Section 4.8 Vacancies. A newly created office and a vacancy in any office because of death, resignation, or removal may be filled by the Board of Directors for the unexpired portion of the term at any meeting of the Board of Directors.

ARTICLE V
STOCK CERTIFICATES AND TRANSFERS

Section 5.1 Stock Certificates and Transfers.

A. Unless the Board of Directors has determined by resolution that some or all of any or all classes or series of stock shall be uncertificated shares, the interest of each stockholder of the Corporation shall be evidenced by certificates for shares of stock in such form as the appropriate officers of the Corporation may from time to time prescribe. The shares of the stock of the Corporation shall be transferred on the books of the Corporation by the holder thereof in person or by his attorney, upon surrender for cancellation of certificates for the same number of shares, with an assignment and power of transfer endorsed thereon or attached thereto, duly executed, and with such proof of the authenticity of the signature as the Corporation or its agents may reasonably require.

B. Every holder of stock represented by certificates shall be entitled to have a certificate signed, countersigned and registered in such manner as the Board of Directors may by resolution prescribe, which resolution may permit all or any of the signatures on such certificates to be in facsimile. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate has ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if he were such officer, transfer agent or registrar at the date of issue.

ARTICLE VI
INDEMNIFICATION

Section 6.1 Right to Indemnification. Each person who was or is made a party or is threatened to be made a party to or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (hereinafter a "proceeding"), by reason of the fact that he or she is or was a director or officer of the Corporation or, while a director or officer of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee, trustee or agent of another corporation or of a partnership, joint venture, trust or other enterprise, including service with respect to an employee benefit plan (hereinafter an "indemnitee"), where the basis of such proceeding is alleged action in an official capacity as a director, officer, employee, trustee or agent or in any other capacity while serving as a director, officer, trustee or agent, shall be indemnified and held harmless by the Corporation to the fullest extent authorized by the Delaware General Corporation Law, as the same exists or may hereafter be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than permitted prior thereto), against all expense, liability and loss (including attorneys' fees, judgments, fines, ERISA excise taxes or penalties and amounts paid in settlement) reasonably incurred or suffered by such indemnitee in connection therewith and such indemnification shall continue as to an indemnitee who has ceased to be a director, officer, employee, trustee or agent and shall inure to the benefit of the indemnitee's heirs, executors and administrators; *provided*, *however*, that, except as provided in Section 6.3 hereof with respect to proceedings to enforce rights to indemnification, the Corporation shall indemnify any such indemnitee in connection with a proceeding (or part thereof) initiated by such indemnitee only if such proceeding (or part thereof) was authorized by the Board of Directors of the Corporation.

Section 6.2 Right to Advancement of Expenses. The right to indemnification conferred in Section 6.1 shall include the right to be paid by the Corporation the expenses (including attorney's fees) incurred in defending any proceeding for which such right to indemnification is applicable in advance of its final disposition (hereinafter an "advancement of expenses"); *provided*, *however*, that, if the Delaware General Corporation Law requires, an advancement of expenses incurred by an indemnitee in his or her capacity as a director or officer (and not in any other capacity in which service was or is rendered by such indemnitee, including, without limitation, service to an employee benefit plan) shall be made only upon delivery to the Corporation of an undertaking (hereinafter an "undertaking"), by or on behalf of such indemnitee, to repay all amounts so advanced if it shall ultimately be determined by final judicial decision from which there is no further right to appeal (hereinafter a "final adjudication") that such indemnitee is not entitled to be indemnified for such expenses under this Section or otherwise.

Section 6.3 Right of Indemnitee to Bring Suit. The rights to indemnification and to the advancement of expenses conferred in Section 6.1 and Section 6.2, respectively, shall be contract rights. If a claim under Section 6.1 or Section 6.2 is not paid in full by the Corporation within sixty days after a written claim has been received by the Corporation, except in the case of a claim for an advancement of expenses, in which case the applicable period shall be twenty days, the indemnitee may at any time thereafter bring suit against the Corporation to recover the unpaid amount of the claim. If successful in whole or in part in any such suit, or in a suit brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the indemnitee shall be entitled to be paid also the expense of prosecuting or defending such suit. In (A) any suit brought by the indemnitee to enforce a right to indemnification hereunder (but not in a suit brought by the indemnitee to enforce a right to an advancement of expenses) it shall be a defense that, and (B) in any suit by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking the Corporation shall be entitled to recover such expenses upon a final adjudication that, the indemnitee has not met any applicable standard for indemnification set forth in the Delaware General Corporation Law. Neither the failure of the Corporation (including its Board of Directors, independent legal counsel, or its stockholders) to have made a determination prior to the commencement of such suit that indemnification of the indemnitee is proper in the circumstances because the indemnitee has met the applicable standard of conduct set forth in the Delaware General Corporation Law, nor an actual determination by the Corporation (including its Board of Directors, independent legal counsel, or its stockholders) that the indemnitee has not met such applicable standard of conduct, shall create a presumption that the indemnitee has not met the applicable standard of conduct or, in the case of such a suit brought by the indemnitee, be a defense to such suit. In any suit brought by the indemnitee to enforce a right to indemnification or to an advancement of expenses

hereunder, or by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the burden of proving that the indemnitee is not entitled to be indemnified, or to such advancement of expenses, under this Section or otherwise shall be on the Corporation.

Section 6.4 Non-Exclusivity of Rights. The rights to indemnification and to the advancement of expenses conferred in this Article VI shall not be exclusive of any other right which any person may have or hereafter acquire under the Certificate of Incorporation, these Amended and Restated Bylaws, or any statute, agreement, vote of stockholders or disinterested directors or otherwise.

Section 6.5 Insurance. The Corporation may maintain insurance, at its expense, to protect itself and any director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise against any expense, liability or loss, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the Delaware General Corporation Law.

Section 6.6 Amendment of Rights. Any amendment, alteration or repeal of this Article VI that adversely affects any right of an indemnitee or its successors shall be prospective only and shall not limit or eliminate any such right with respect to any proceeding involving any occurrence or alleged occurrence of any action or omission to act that took place prior to such amendment or repeal.

Section 6.7 Indemnification of Employees and Agents of the Corporation. The Corporation may, to the extent authorized from time to time by the Board of Directors, grant rights to indemnification, and to the advancement of expenses, to any employee or agent of the Corporation to the fullest extent of the provisions of this Section with respect to the indemnification and advancement of expenses of directors and officers of the Corporation.

ARTICLE VII
MISCELLANEOUS PROVISIONS

Section 7.1 Fiscal Year. The fiscal year of the Corporation shall begin on the first day of January and end on the thirty-first day of December of each year.

Section 7.2 Dividends. The Board of Directors may from time to time declare, and the Corporation may pay, dividends on its outstanding shares in the manner and upon the terms and conditions provided by law and its Certificate of Incorporation.

Section 7.3 Seal. The corporate seal shall have inscribed the name of the Corporation thereon and shall be in such form as may be approved from time to time by the Board of Directors.

Section 7.4 Waiver of Notice. Whenever any notice is required to be given to any stockholder or director of the Corporation under the provisions of the Delaware General Corporation Law, the Certificate of Incorporation or the Bylaws, a waiver thereof in writing, signed by the person or persons entitled to such notice, or a waiver by electronic transmission, whether before or after the time of the event for which notice is to be given, shall be deemed equivalent to the giving of such notice. Neither the business to be transacted at, nor the purpose of, any annual or special meeting of the stockholders or the Board of Directors need be specified in any waiver of notice of such meeting. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting at the beginning of the meeting to the transaction of any business because the meeting is not lawfully called or convened.

Section 7.5 Audits. The accounts, books and records of the Corporation shall be audited upon the conclusion of each fiscal year by an independent certified public accountant selected by the Board of Directors, and it shall be the duty of the Board of Directors to cause such audit to be made annually.

Section 7.6 Resignations. Any director or any officer, whether elected or appointed, may resign at any time by serving written notice of such resignation on the Chairman of the Board, the Chief Executive Officer or

the Secretary, or by submitting such resignation by electronic transmission (as such term is defined in the Delaware General Corporation Law), and such resignation shall be deemed to be effective as of the close of business on the date said notice is received by the Chairman of the Board, the Chief Executive Officer, or the Secretary or at such later date as is stated therein. No formal action shall be required of the Board of Directors or the stockholders to make any such resignation effective.

Section 7.7 Contracts. Except as otherwise required by law, the Certificate of Incorporation or these Bylaws, any contracts or other instruments may be executed and delivered in the name and on the behalf of the Corporation by such officer or officers of the Corporation as the Board of Directors may from time to time direct. Such authority may be general or confined to specific instances as the Board of Directors may determine. The Chairman of the Board, the Chief Executive Officer, the President or any Vice President may execute bonds, contracts, deeds, leases and other instruments to be made or executed for or on behalf of the Corporation. Subject to any restrictions imposed by the Board of Directors or the Chairman of the Board, the Chief Executive Officer, the President or any Vice President of the Corporation may delegate contractual powers to others under his jurisdiction, it being understood, however, that any such delegation of power shall not relieve such officer of responsibility with respect to the exercise of such delegated power.

Section 7.8 Proxies. Unless otherwise provided by resolution adopted by the Board of Directors, the Chairman of the Board, the Chief Executive Officer, the President or any Vice President may from time to time appoint any attorney or attorneys or agent or agents of the Corporation, in the name and on behalf of the Corporation, to cast the votes which the Corporation may be entitled to cast as the holder of stock or other securities in any other corporation or other entity, any of whose stock or other securities may be held by the Corporation, at meetings of the holders of the stock and other securities of such other corporation or other entity, or to consent in writing, in the name of the Corporation as such holder, to any action by such other corporation or other entity, and may instruct the person or persons so appointed as to the manner of casting such votes or giving such consent, and may execute or cause to be executed in the name and on behalf of the Corporation and under its corporate seal or otherwise, all such written proxies or other instruments as he may deem necessary or proper in the premises.

ARTICLE VIII
AMENDMENTS

Section 8.1 Amendments. Subject to the provisions of the Certificate of Incorporation (including the rights of the holders of any series of Preferred Stock then outstanding), these Bylaws may be adopted, amended or repealed at any meeting of the Board of Directors by a resolution adopted by a majority of the Whole Board, provided notice of the proposed change was given in the notice of the meeting in a notice given no less than twenty-four (24) hours prior to the meeting. Subject to the provisions of the Certificate of Incorporation (including the rights of the holders of any series of Preferred Stock then outstanding), the stockholders shall also have power to adopt, amend or repeal these Bylaws, *provided* that notice of the proposed change was given in the notice of the meeting and provided further that, in addition to any vote of the holders of any class or series of stock of the Corporation required by law or by the Certificate of Incorporation (including the rights of the holders of any series of Preferred Stock then outstanding), the affirmative vote of the holders of at least two-thirds of the voting power of all of the then-outstanding shares of the capital stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class, shall be required to adopt, amend or repeal any provision of these Bylaws.

Exhibit 31.1

CERTIFICATION

I, Shankar Musunuri, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Ocugen, 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 my supervision, to ensure that material information relating to the registrant, is made known to me 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 my 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 my 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 my most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

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

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

Date: August 21, 2023 /s/ Shankar Musunuri

Shankar Musunuri, Ph.D., MBA

Chairman, Chief Executive Officer, & Co-Founder

(Principal Executive Officer and Interim Principal Financial Officer)

Exhibit 32.1

Certification

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

(Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)

In connection with the Quarterly Report on Form 10-Q of Ocugen, Inc. (the “Company”) for the quarter ended June 30, 2023, as filed with the Securities and Exchange Commission on the date hereof (the "Form 10-Q"), I, Shankar Musunuri, do hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

- the Form 10-Q fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- the information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 21, 2023 /s/ Shankar Musunuri

Shankar Musunuri, Ph.D., MBA
Chairman, Chief Executive Officer, & Co-Founder
(Principal Executive Officer and Interim Principal Financial Officer)

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request. This certification "accompanies" the Form 10-Q to which it relates, is not deemed filed with the SEC and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.