

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

FORM 8-K

**CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934**

Date of Report (Date of earliest event reported): November 15, 2023

AEGLEA BIOTHERAPEUTICS, INC.

(Exact name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction
of Incorporation)

001-37722
(Commission
File Number)

46-4312787
(IRS Employer
Identification No.)

**221 Crescent Street
Building 23
Suite 105
Waltham, Massachusetts**
(Address of Principal Executive Offices)

02453
(Zip Code)

Registrant's Telephone Number, Including Area Code: 617 651-5940

Not Applicable
(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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, \$0.0001 Par Value Per Share	AGLE	The Nasdaq Capital Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§ 230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§ 240.12b-2 of this chapter).

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.

Item 8.01 Other Events.

As previously disclosed, Aeglea BioTherapeutics, Inc. (the “Company”) filed with the Secretary of State of the State of Delaware a Certificate of Amendment to its Restated Certificate of Incorporation (the “Charter Amendment”) to effect a 1-for-25 reverse stock split (the “Reverse Stock Split”) of the Company’s common stock, par value \$0.0001 per share (the “Common Stock”), and a reduction in the total number of authorized shares of Common Stock from 500,000,000 shares to 20,000,000 shares (the “Authorized Shares Reduction”), each effective as of 12:01 a.m. Eastern Time on September 8, 2023.

In connection with the Reverse Stock Split and the Authorized Shares Reduction, the Company is filing this Current Report on Form 8-K (this “Report”) to update certain financial information included in the Company’s Annual Report on Form 10-K for the year ended December 31, 2022 (the “Form 10-K”), originally filed on March 2, 2023, in Exhibits 99.1 and 99.2. The information in this Report is not an amendment to, or restatement of, the Form 10-K and does not modify or update the disclosures therein in any way, other than to reflect the Reverse Stock Split and the Authorized Shares Reduction, as described above.

“Part II, Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Part II, Item 8. Financial Statements and Supplementary Data” of the Form 10-K are being revised as reflected in Exhibits 99.1 and 99.2 to this Report, respectively.

This Report, including Exhibits 99.1 and 99.2, does not reflect events (other than the Reverse Stock Split and the Authorized Shares Reduction) occurring after the filing of the Form 10-K and does not modify or update the disclosures in such filing, other than as required to reflect the Reverse Stock Split and the Authorized Shares Reduction.

Item 9.01 Financial Statements and Exhibits.**(d) Exhibits**

<u>Exhibit Number</u>	<u>Description</u>
23.1	Consent of Independent Registered Public Accounting Firm.
99.1	Recast Item 7: Management’s Discussion and Analysis of Financial Condition and Results of Operations Originally Included in the Annual Report on Form 10-K of Aeglea BioTherapeutics, Inc. for the year ended December 31, 2022.
99.2	Recast Item 8: Financial Statements and Supplementary Data Originally Included in the Annual Report on Form 10-K of Aeglea BioTherapeutics, Inc. for the year ended December 31, 2022.
104	Cover Page Interactive Data File (embedded within the Inline XBRL document).

SIGNATURES

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

AEGLEA BIOTHERAPEUTICS, INC.

Date: November 15, 2023

By: /s/ Cameron Turtle
Cameron Turtle
Chief Operating Officer

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 333-210633, 333-216903, 333-223614, 333-230137, 333-236584, 333-254430, 333-263357, and 333-270208) of Aeglea BioTherapeutics, Inc. of our report dated March 2, 2023, except for the effects of the reverse stock split discussed in Note 14 to the consolidated financial statements, as to which the date is November 15, 2023 relating to the financial statements of Aeglea BioTherapeutics, Inc., which appears in Exhibit 99.2 of this Current Report on Form 8-K.

/s/ PricewaterhouseCoopers LLP
Austin, Texas
November 15, 2023

ITEM 7. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with our financial statements and related notes appearing in this Annual Report. Some of the information contained in this discussion and analysis or set forth elsewhere in this Annual Report, including information with respect to our plans and strategy for our business and related financing, includes forward-looking statements that involve risks and uncertainties. As a result of many factors, including those factors set forth in the “Risk Factors” section of this Annual Report on Form 10-K, or this Annual Report, our actual results could differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis. As used in this report, unless the context suggests otherwise, “we”, “us”, “our”, “the Company” or “Aeglea” refers to Aeglea BioTherapeutics, Inc. and its consolidated subsidiaries taken as a whole.

Overview

We are a clinical-stage biotechnology company developing human enzyme therapeutics to benefit people with rare metabolic diseases. Our vision is to redefine what was thought possible and pioneer bold science to deliver groundbreaking medicines to devastating rare diseases. Our two clinical programs are pegtarviliase for Homocystinuria and pegzilarginase for Arginase 1 Deficiency. Both clinical programs are focused on the underlying key metabolites that drive the clinical manifestations of these devastating rare metabolic diseases. We are on a mission to change lives by bringing innovative therapies to underserved rare disease communities.

Our primary focus is the advancement of pegtarviliase through clinical development, regulatory approval and into commercialization. We believe pegtarviliase has the potential to be a best-in-class enzyme therapy for the treatment of Classical Homocystinuria. Pegtarviliase is currently being studied in a Phase 1/2 clinical trial to assess safety and efficacy in patients with Classical Homocystinuria, also known as Homocystinuria due to cystathionine β -synthase deficiency. We estimate that there are approximately 30,000 Classical Homocystinuria patients in global addressable markets and we estimate about 80% of these patients are unable to control their tHcy levels to targeted clinical thresholds with the currently available treatments. With significantly elevated homocysteine levels, these patients are continuing to experience irreversible progression and remain at risk for catastrophic thromboembolic events resulting in death.

Our other clinical program is pegzilarginase for the treatment of Arginase 1 Deficiency. We reported positive topline data for pegzilarginase for our global pivotal PEACE (Pegzilarginase Effect on Arginase 1 Deficiency Clinical Endpoints) Phase 3 trial in December 2021 and are continuing to evaluate the safety of pegzilarginase in an open-label study for patients who participated in our previously completed trials. Based on the results from PEACE and a previous Phase 1/2 clinical trial, a Marketing Authorization Application, or MAA, was submitted to the European Medicines Agency, or EMA, by Immedica Pharma AB, or Immedica, our commercial partner in Europe and several countries in the Middle East. We announced in August 2022 that the MAA was validated by the EMA and is currently under review. We submitted a Biologics License Application, or BLA, to the U.S. Food and Drug Administration, or FDA, for pegzilarginase and announced in June 2022 that we had received a Refuse to File, or RTF, letter from the FDA. The FDA requested additional data to support effectiveness, such as evidence showing that plasma arginine and metabolite reduction predicts clinical benefit in patients with ARG1-D or clinical data demonstrating a treatment effect on clinically meaningful outcomes. Previously the agency had requested an additional randomized placebo-controlled trial of a duration longer than 24 weeks given that efficacy data based on effort-dependent clinical outcome assessments and related endpoints have a high potential for bias. The FDA also requested additional information relating to Chemistry Manufacturing and Controls, or CMC, in the RTF letter. Dialogue with the FDA regarding the pegzilarginase BLA is ongoing.

In addition to our clinical programs, we have leveraged enzyme engineering to create additional pipeline candidates for the treatment of Cystinuria and other undisclosed diseases. These programs represent innovative solutions for diseases that previously were not believed to be addressable with enzyme therapies. For example, Cystinuria is a rare genetic disease characterized by frequent and recurrent kidney stone formation due to increased amounts of cystine in the urine. We engineered and optimized AGLE-325 to reduce plasma cystine and cysteine levels and therefore reduce urine cystine concentrations as an approach to inhibit cystine crystal and kidney stone formation. We announced in January 2023 that we are halting work on our preclinical pipeline candidates, including AGLE-325 for Cystinuria and that we will evaluate potential strategic options for these programs in order to maximize value.

We have incurred net losses in each year since inception. Our net losses were \$83.8 million, \$65.8 million, and \$80.9 million for the years ended December 31, 2022, 2021, and 2020, respectively, and have resulted from costs incurred in connection with our research and development programs and from general and administrative expenses associated with our operations. As of December 31, 2022, we had an accumulated deficit of \$425.6 million. We expect to continue to incur operating losses over the next several years. Our net losses may fluctuate significantly from quarter to quarter and from year to year. We anticipate that our expenses will increase as we continue our clinical development activities for our product candidates, concurrently develop our pipeline product candidates, expand and protect our intellectual property portfolio, hire additional personnel, and continue to operate as a public company. Accordingly, based on recurring losses from operations incurred since inception, the expectation of continued operating losses, and the need to raise additional capital to finance our future operations, we determined that there is substantial doubt about our ability to continue as a going concern within twelve months of the issuance date of these financial statements.

Business and Macroeconomic Conditions

The extent of the impact of macroeconomic events and conditions, including inflation, increasing interest rates, increasing financial market volatility and uncertainty, the impact of war or military conflict, including the war in Ukraine and its potential supply chain impact, and public health pandemics, including the current COVID-19 pandemic and its variants, on our operational and financial performance will continue to depend on certain developments, including the impact on our clinical studies, employee or industry events, and effect on our suppliers and manufacturers, all of which are uncertain and cannot be predicted. Adverse effects of these large macroeconomic conditions have been prevalent in many of the areas where we, our CROs, suppliers or third-party business partners conduct business and as a result, we have experienced disruptions and may continue to experience more pronounced disruptions in our operations. With respect to our clinical trials, we have had patients miss scheduled dosings and experienced delays in enrollment due to the COVID-19 pandemic. We may continue to experience such delays as well as delays due to labor shortages and supply chain disruptions in distribution of clinical trial materials, study monitoring and data analysis that could materially adversely impact our business, results of operations and overall financial performance in future periods. As of the filing date of this Annual Report, the extent to which these macroeconomic events and conditions may impact our financial condition, results of operations or guidance is uncertain. The effect of these macroeconomic events and conditions may not be fully reflected in our results of operations and overall financial performance until future periods. See Part I, Item 1A “Risk Factors” for further discussion of the possible impact of these macroeconomic conditions, including inflation, increasing interest rates and the COVID-19 pandemic, on our business.

Components of Operating Results

Revenue

We have recognized license and development revenue from a license and supply agreement, or Immedica Agreement, with Immedica, and expect to continue to recognize revenue as we satisfy our performance obligations under the agreement. We may also be entitled to receive additional milestone payments pursuant to the Immedica Agreement upon achievement of specified milestones. As the recognition of future license and development revenue will be based on costs incurred to date relative to total estimated costs at completion and the uncertainty of when the events underlying various milestones are resolved, we expect our license and development revenue will fluctuate from period to period.

We have not generated any revenue from commercial product sales. Our ability to generate product revenues in the future will depend on the successful development, regulatory approval, and commercialization of our product candidates. In the future, we may also seek to generate revenue from a combination of research and development payments, license fees and other upfront or milestone payments, including under the Immedica Agreement.

Research and development expenses

Research and development expenses consist primarily of costs incurred for the discovery and development of our product candidates, including, pegtarviliase and pegzilarginase. We contract with external providers for nonclinical studies and clinical trials. Our research and development expenses include:

- costs from acquiring clinical trial materials and services performed for contracted services with contract manufacturing organizations, or CMOs;
- fees paid to clinical trial sites, clinical research organizations, or CROs, CMOs, nonclinical research companies, and academic institutions; and
- employee and consultant-related expenses incurred, which include salaries, benefits, travel and stock-based compensation.

Research and development costs are expensed as incurred. Advance payments for goods or services to be rendered in the future for use in research and development activities are deferred and capitalized. The capitalized amounts are expensed as the related goods are delivered or the services are performed.

Research and development expenses have historically represented the largest component of our total operating expenses.

Our expenditures on current and future nonclinical and clinical development programs are subject to numerous uncertainties in timing and cost to completion. The duration, costs, and timing of clinical trials and development of our product candidates will depend on a variety of factors, including:

- the scope, rate of progress, and expenses of our ongoing research activities as well as any additional clinical trials and other research and development activities;
- future clinical trial results;
- uncertainties in clinical trial enrollment rates or drop-out or discontinuation rates of patients;
- changes in the competitive drug development environment;
- potential safety monitoring or other studies requested by regulatory agencies;
- significant and changing government regulation;
- the timing and receipt of regulatory approvals, if any; and
- macroeconomic events and conditions, including inflation, increasing interest rates, increasing financial market volatility and uncertainty, the impact of war or military conflict, including the war in Ukraine and its potential supply chain impact, and public health pandemics, including the current COVID-19 pandemic.

The process of conducting the necessary clinical research to obtain FDA and other regulatory approval is costly and time consuming and the successful development of our product candidates is highly uncertain. The risks and uncertainties associated with our research and development projects are discussed more fully in Part I, Item 1A of this Annual Report titled "Risk Factors." As a result of these risks and uncertainties, we are unable to determine with any degree of certainty the duration and completion costs of our research and development projects, or if, when, or to what extent we will generate revenues from the commercialization and sale of any of our product candidates that obtain regulatory approval. We may never succeed in achieving regulatory approval for any of our product candidates.

General and administrative expenses

General and administrative expenses consist primarily of salaries and other related costs, including stock-based compensation, for personnel in executive, finance, accounting, legal, commercial development, operations, and human resources functions. Other significant costs include legal fees relating to corporate matters and fees for insurance, accounting, consulting, facilities, and recruiting services.

We expect that our general and administrative expenses will increase in the future to support our continued research and development activities. These increases will likely include higher costs related to the hiring of additional personnel and fees to outside consultants, lawyers and accountants, among other expenses. Additionally, we have incurred and expect to continue to incur increased costs associated with being a public company, including expenses related to services associated with maintaining compliance with Nasdaq listing rules and SEC requirements, insurance, and investor relations costs.

Interest income

Interest income consists of interest earned on our cash, cash equivalents, marketable securities, and restricted cash.

Income taxes

We serve as a holding company for our ten wholly owned subsidiary corporations in the United States, United Kingdom, and European Union. We file a consolidated U.S. corporate federal income tax return with our eight United States subsidiaries. Additionally, we operate in the United Kingdom and our income tax return is subject to audit and adjustment by local tax authorities. We use the asset and liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences between the financial statements and the tax bases of assets and liabilities. A valuation allowance is established against the deferred tax assets to reduce their carrying value to an amount that is more likely than not to be realized. The deferred tax assets and liabilities are classified as noncurrent along with the related valuation allowance. Due to our lack of earnings history, the net deferred tax assets have been fully offset by a valuation allowance.

We recognize benefits of uncertain tax positions if it is more likely than not that such positions will be sustained upon examination based solely on the technical merits, as the largest amount of benefits that is more likely than not to be realized upon the ultimate settlement. Our policy is to recognize interest and penalties related to the unrecognized tax benefits as a component of income tax expense.

Critical Accounting Policies and Estimates

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

Our critical accounting policies are those policies which require the most significant judgments and estimates in the preparation of our consolidated financial statements. We believe that the assumptions and estimates associated with our most critical accounting policies are those relating to accrued research and development costs.

We define our critical accounting policies as those accounting principles generally accepted in the United States that require us to make subjective estimates and judgments about matters that are uncertain and are likely to have a material impact on our financial condition and results of operations, as well as the specific manner in which we apply those principles. Our significant accounting policies are more fully described in Note 2 to our audited consolidated financial statements appearing elsewhere in this Annual Report.

Revenue recognition

We enter into license agreements related to our technologies that we have determined are within the scope of Accounting Standards Codification 606. Based on the terms and conditions of our agreements, we identify the goods and services that we promise to transfer to the customer, which may consist of the licensing of technologies, the performance of research and development activities, and/or the supply of products related to our technologies. Based on the nature of the goods and services provided and the customer's intended benefit of the arrangement, we evaluate which of the promised goods and services are distinct and, therefore, represent a performance obligation, which may require us to combine certain promised goods and services that are determined to not be distinct from one another. We also evaluate whether an agreement provides the customer an option to purchase future goods or services at a discounted price, or a material right, which would also represent a performance obligation.

In exchange for the performance obligations, we estimate the amount of consideration promised by the customer, or transaction price, which may include both fixed and variable consideration. Variable consideration, which may consist of various milestone payments based upon the achievement of certain events or conditions, sales-based royalties, or payments contingent on the performance of research and development services, are included in the transaction price only if we expect to receive such consideration and determine it is likely that the inclusion of the variable consideration will not result in a significant reversal in the cumulative amount of revenue recognized under the arrangement. Sales-based royalty and milestone payments that we determine are predominantly related to the license of our intellectual property are excluded from the transaction price we expect to receive until the underlying sales occur.

We allocate the estimated transaction price to the identified performance obligations based on the relative estimated stand-alone selling price, or SSP, of each performance. SSP is based on the observable price of our goods and services, or when SSP is not directly observable, we estimate SSP based on factors such as forecasted revenues or costs, development timelines, discount rates, probabilities of technical and regulatory success, and considerations such as market conditions and entity-specific factors. We recognize revenue allocated to each performance obligation either at a point-in-time or over time in a manner that depicts the transfer of control of the promised goods and services to the customer. For performance obligations that are recognized over time, we estimate the measure of progress associated with the satisfaction of the performance obligation based on an input or output method, which may be based on factors such as costs incurred, labor hours expended, time elapsed, among other measures based on the nature of the performance obligation. The estimates made on an input or output method are subject to change and may result in material changes to revenue that could materially affect our results of operations. Please refer to Note 9, Strategic License Agreements, to the consolidated financial statements included elsewhere in this Annual Report.

Accrued research and development costs

We record the costs associated with research nonclinical studies, clinical trials, and manufacturing development as incurred. These costs are a significant component of our research and development expenses, with a substantial portion of our on-going research and development activities conducted by third-party service providers, including CROs and CMOs.

We accrue for expenses resulting from obligations under agreements with CROs, CMOs, and other outside service providers for which payment flows do not match the periods over which materials or services are provided to us. We record accruals based on estimates of services received and efforts expended pursuant to agreements established with CROs, CMOs, and other outside service providers. These estimates are typically based on contracted amounts applied to the proportion of work performed and determined through analysis with internal personnel and external service providers as to the progress or stage of completion of the services. We make significant judgments and estimates in determining the accrual balance in each reporting period. In the event advance payments are made to a CRO, CMO, or outside service provider, the payments will be recorded as a prepaid asset which will be amortized as the contracted services are performed. As actual costs become known, we adjust our accruals. Inputs, such as the services performed, the number of patients enrolled, or the study duration, may vary from our estimates, resulting in adjustments to research and development expense in future periods. Changes in these estimates that result in material changes to our accruals could materially affect our results of operations. However, there have been no material changes in estimates for the periods presented.

Results of Operations

Comparison of the Years Ended December 31, 2022 and 2021

A discussion and analysis of our financial condition and results of operations for the year ended December 31, 2020 is included in Item 7 of Part II, "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report on Form 10-K for the year ended December 31, 2021 filed with the SEC on March 8, 2022.

The following table summarizes our results of operations for the years ended December 31, 2022 and 2021, together with the changes in those items in dollars and as a percentage:

	<u>Year Ended December 31,</u>		<u>Dollar</u> <u>Change</u>	<u>% Change</u>
	<u>2022</u>	<u>2021</u>		
(in thousands)				
Revenue:				
License	\$ —	\$ 12,000	\$ (12,000)	*
Development fee	2,329	6,739	(4,410)	-65%
Total revenue	2,329	18,739	(16,410)	-88%
Operating expenses:				
Research and development	58,579	57,069	1,510	3%
General and administrative	28,531	27,319	1,212	4%
Total operating expenses	87,110	84,388	2,722	3%
Loss from operations	(84,781)	(65,649)	(19,132)	29%
Interest income	837	111	726	*
Other expense, net	(7)	(122)	115	-94%
Loss before income tax expense	(83,951)	(65,660)	(18,291)	28%
Income tax benefit (expense)	136	(141)	277	-196%
Net loss	<u>\$(83,815)</u>	<u>\$(65,801)</u>	<u>\$(18,014)</u>	27%

* Percentage not meaningful

License and Development Fee Revenue. For the year ended December 31, 2022, we recognized \$2.3 million of development fee revenue allocated to the PEACE Phase 3 trial and BLA package of the Immedica Agreement. For the year ended December 31, 2021, we recognized \$18.7 million of license and development fee revenue in connection with the Immedica Agreement. The total revenue generated was attributable to \$12.0 million allocated to the license and \$6.7 million allocated to the PEACE Phase 3 trial and BLA package. Please refer to Note 9, Strategic License Agreements, to the consolidated financial statements included elsewhere in this Annual Report for additional disclosures around revenue recognition.

Research and Development Expenses. Research and development expenses increased \$1.5 million, or 3%, to \$58.6 million for the year ended December 31, 2022 from \$57.1 million for the year ended December 31, 2021. The change in research and development expenses was due to:

- a \$1.1 million increase in expenses associated with pegzilarginase primarily due to a \$1.4 million increase related to activities involved in closing the PEACE trial and ramping up the new open-label extension trial for the treatment of patients with Arginase 1 Deficiency, partially offset by a \$0.3 million decrease in professional services to support the pegzilarginase program;
- a \$2.8 million increase in expense associated with IND-enabling activities of AGLE-325 for the treatment of patients with Cystinuria;
- a \$0.6 million increase in personnel-related expenses, primarily driven by an increase of headcount expenses;
- a \$1.5 million decrease in expenses primarily associated with the completion of non-clinical toxicology studies in the prior year for pegtarviliase for the treatment of patients with Homocystinuria;
- a \$0.6 million decrease due to reduction in preclinical lab work; and
- a \$0.9 million decrease in other research and development expenses, primarily related to a reduction of consulting and recruiting activities.

General and Administrative Expenses. General and administrative expenses increased by \$1.2 million, or 4%, to \$28.5 million for the year ended December 31, 2022 from \$27.3 million for the year ended December 31, 2021. The increase in general and administrative expenses was primarily due to a \$0.8 million increase in expense related to our commercial capabilities and infrastructure and \$0.4 million increase in expenses related to financing activities.

Liquidity and Capital Resources

Sources of liquidity

We are a clinical-stage biotechnology company with a limited operating history, and due to our significant research and development expenditures, we have generated operating losses since our inception and have not generated any revenue from the sale of any products. Since our inception and through December 31, 2022, we have funded our operations primarily by raising an aggregate of \$506.2 million of gross proceeds from the sale and issuance of convertible preferred and common equity securities, pre-funded stock warrants, the collection of grant proceeds, and the licensing of our product rights for the commercialization of pegzilarginase in Europe and several countries in the Middle East.

In March 2021, we entered into the Immedica Agreement, pursuant to which Immedica licensed the product rights for commercialization of pegzilarginase in the European Economic Area, United Kingdom, Switzerland, Andorra, Monaco, San Marino, Vatican City, Turkey, Saudi Arabia, United Arab Emirates, Qatar, Kuwait, Bahrain, and Oman. In April 2021, we received an upfront payment of \$21.5 million from Immedica. Under the terms of the Immedica Agreement, we are also eligible to receive additional payments of up to approximately \$120.8 million in regulatory and commercial milestone payments, assuming an exchange rate of \$1.07 to €1.00. Additionally, we are entitled to receive royalties in the mid-20 percent range on the net sales of the product in countries included in the Immedica Agreement. In July 2021, the Immedica Agreement was modified to include additional development services, up to \$3.0 million, to support the PEACE Phase 3 trial and BLA package performance obligation.

During the year ended December 31, 2020, we raised \$163.3 million of gross proceeds through an underwritten public offering and an at-the-market offering program. We sold 617,692 shares of common stock and pre-funded warrants to purchase up to 544,413 shares of common stock in an underwritten public offering, or the 2020 Public Offering, for gross proceeds of \$138.0 million, resulting in net proceeds of \$129.0 million after deducting underwriting discounts, commissions, and offering costs. Additionally, we sold an aggregate of 129,803 shares of common stock under an at-the-market offering program, or the 2020 ATM, for gross proceeds of \$25.3 million, resulting in net proceeds of \$24.6 million, after deducting underwriting discounts, commissions, and offering costs.

The shares of common stock and pre-funded warrants sold in the 2020 Public Offering were pursuant to a shelf registration statement on Form S-3, declared effective in February 2019 by the SEC for the potential offering, issuance and sale by us of up to \$200.0 million of our common stock, warrants to purchase common stock, and other security types and subscription rights. The shares of common stock sold under the 2020 ATM were pursuant to an April 2020 sales agreement with JonesTrading Institutional Services LLC, as sales agent, to issue and sell shares of our common stock for an aggregate offering price of \$60.0 million. In February 2022, the shelf registration statement the 2020 ATM was registered under expired and no sales under this registration statement will occur going forward.

In July 2020, we filed a shelf registration statement on Form S-3, or the 2020 Registration Statement, that was declared effective by the SEC for the potential offering, issuance and sale by us of up to \$400.0 million of our common stock, preferred stock, debt securities, warrants to purchase common stock, preferred stock and debt securities, subscription rights to purchase common stock and units consisting of all or some of these securities.

In May 2022, we sold 430,107 shares of common stock and pre-funded warrants to purchase up to 694,892 shares of common stock in a registered direct offering, or the 2022 RDO, for gross proceeds of \$45.0 million, resulting in net proceeds of \$42.9 million after deducting placement agent fees and offering costs. The shares of common stock and pre-funded warrants sold in the 2022 RDO were offered pursuant to the 2020 Registration Statement.

Also in May 2022, we entered into a sales agreement, or the 2022 Sales Agreement, with JonesTrading Institutional Services LLC, as sales agent, to issue and sell shares of our common stock for an aggregate offering price of \$60.0 million under an at-the-market offering program with JonesTrading Institutional Services LLC, pursuant to the 2020 Registration Statement. As of the date of the filing of this report, \$60.0 million of our common stock remained available for sale pursuant to the 2022 Sales Agreement. Any sales of common stock to be sold under the 2022 Sales Agreement will be made pursuant to the 2020 Registration Statement.

Our primary use of cash is to fund the development of our product candidates and advance our pipeline. This includes both the research and development costs and the general and administrative expenses required to support those operations. Since we are a clinical-stage biotechnology company, we have incurred significant operating losses since our inception and we anticipate such losses, in absolute dollar terms, to increase as we continue clinical development of our product candidates.

Future funding requirements and operational plan

Our operational plan for the near future is to continue clinical trials for our product candidate pegtarviliase in Classical Homocystinuria and our product candidate pegzilarginase in Arginase 1 Deficiency. As such, we plan to focus our research and development expenditures and general and administrative expenditures on nonclinical studies, clinical trials, manufacturing, and commercial development. We expect our principal expenditures during this time period to include expenses for the following:

- funding the continuing development of pegtarviliase and pegzilarginase; and
- funding working capital, including general operating expenses.

Due to our significant research and development expenditures, we have generated substantial losses in each period since inception. We have an accumulated deficit of \$425.6 million as of December 31, 2022. We anticipate that we will continue to generate losses into the foreseeable future as we develop our product candidates, seek regulatory approval of those candidates and begin to commercialize any approved products. Until such time as we can generate substantial product revenue, we expect to finance our cash needs through a combination of equity or debt financings, collaborations, license and development agreements, or other sources. We currently have no debt, credit facility or additional committed capital. To the extent that we raise additional equity, the ownership interest of our stockholders will be diluted.

Based on our available cash, cash equivalents, marketable securities, and restricted cash of \$57.3 million as of December 31, 2022, we believe that we have sufficient resources to fund our operations into the fourth quarter of 2023. Accordingly, based on recurring losses from operations incurred since inception, the expectation of continued operating losses, and the need to raise additional capital to finance our future operations, we determined that there is substantial doubt about our ability to continue as a going concern within one year after the date that the financial statements included in this Annual Report filed on Form 10-K are issued. As a result, in order to continue to operate our business beyond that time, we will need to raise additional funds. However, there can be no assurance that we will be able to generate funds on terms acceptable to us, on a timely basis, or at all. In addition, we have based this estimate on assumptions that may prove to be wrong, and we could deplete our capital resources sooner than we currently anticipate.

Cash flows

A discussion and analysis of our financial condition and cash flows for the year ended December 31, 2020 is included in Item 7 of Part II, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in our Annual Report on Form 10-K for the year ended December 31, 2021 filed with the SEC on March 8, 2022.

The following table summarizes our cash flows for the periods indicated (in thousands):

	Year Ended December 31,	
	2022	2021
Net cash and cash equivalents (used in) provided by:		
Operating activities	\$ (80,144)	\$ (53,716)
Investing activities	57,008	(22,619)
Financing activities	42,678	1,393
Effect of exchange rate on cash, cash equivalents, and restricted cash	(106)	(15)
Net increase (decrease) in cash and cash equivalents	<u>\$ 19,436</u>	<u>\$ (74,957)</u>

Cash used in operating activities

Cash used in operating activities for the year ended December 31, 2022 was \$80.1 million and reflected a net loss of \$83.8 million. The cash impact of our net loss was offset by non-cash expenses of \$7.1 million for stock-based compensation, \$1.6 million for depreciation and amortization, \$0.4 million for operating lease expense, and \$0.1 million for net premium purchase and amortization on marketable securities. The net decrease in operating assets and liabilities of \$5.5 million was primarily related to a \$2.6 million decrease in accounts payable, a \$1.1 million increase in prepaid expenses and other assets, a \$0.9 million decrease in deferred revenue due to receiving payments under the Immedica Agreement offset by the recognition of revenue allocated to the license, PEACE Phase 3 trial and BLA filing, a \$0.9 million decrease in accrued expenses and other liabilities, and a \$0.4 million decrease in operating lease liabilities due to lease payments made during the year, partially offset by a \$0.4 million increase in accounts receivable for incremental services provided to Immedica and not yet paid.

Cash used in operating activities for the year ended December 31, 2021 was \$53.7 million and reflected a net loss of \$65.8 million. The cash impact of our net loss was offset by non-cash expenses of \$8.0 million for stock-based compensation, \$1.6 million for depreciation and amortization, \$0.4 million for operating lease expense, and \$0.2 million for net premium purchase and amortization on marketable securities. The net change in operating assets and liabilities of \$1.8 million was primarily related to a \$3.6 million increase in deferred revenue due to receiving a \$21.5 million upfront payment under the Immedica Agreement offset by the recognition of revenue allocated to the license, PEACE Phase 3 trial and BLA submission. Additional offsets included a \$1.2 million increase in prepaid expenses and other assets due to advance payments for the Phase 1/2 trial of pegtarviliase and manufacturing activities for the Arginase 1 Deficiency program, a \$0.8 million increase in license and development receivable for incremental services provided to Immedica and not yet paid, and a \$0.4 million decrease in operating lease liabilities due to lease payments made during the year.

Cash used in investing activities

Cash used in investing activities for the year ended December 31, 2022 was \$57.0 million and consisted of \$39.5 million in purchases of marketable securities offset by \$96.5 million in maturities of marketable securities.

Cash used in investing activities for the year ended December 31, 2021 was \$22.6 million and consisted of \$133.1 million in purchases of marketable securities and \$0.5 million in purchases of property and equipment offset by \$111.0 million in maturities of marketable securities.

Cash provided by financing activities

Cash provided by financing activities for the year ended December 31, 2022 was \$42.7 million, which consisted of \$42.9 million from issuance of common stock and pre-funded warrants in a registered direct offering, the 2022 RDO, net of offering costs and \$0.2 million sale of common stock under our 2016 Employee Stock Purchase Plan offset by \$0.4 million in principal payments made on finance lease obligations.

Cash provided by financing activities for the year ended December 31, 2021 was \$1.4 million, which consisted of \$1.9 million in stock option exercises and sale of common stock under our 2016 Employee Stock Purchase Plan offset by \$0.5 million in principal payments made on finance lease obligations.

Contractual Obligations and Other Commitments

In April 2019, we entered into a lease agreement, or the Las Cimas Lease, for our corporate headquarters and laboratory space located in Austin, Texas. Future minimum lease commitments under the Las Cimas Lease through April 2028 are \$6.1 million. Please refer to Note 7, Leases, to the consolidated financial statements included elsewhere in this Annual Report for additional disclosures.

We have entered into agreements in the normal course of business with contract research organizations for clinical trials and contract manufacturing organizations, and with vendors for nonclinical research studies and other services and products for operating purposes. These contractual obligations are cancelable at any time by us, generally upon 30 to 60 days' prior written notice to the vendor.

Contingent contractual obligations

In June 2015, we entered into a Cancer Research Grant Contract, or the Grant Contract, with the Cancer Prevention and Research Institute of Texas, or CPRIT, under which CPRIT awarded us a grant not to exceed \$19.8 million to be used to develop novel cancer treatments by exploiting the unique metabolism of cancer cells. The terms of the Grant Contract require that we pay CPRIT tiered royalties in the low- to mid-single digit percentages on revenues from sales and license of

products or services that are based upon, utilize, are developed from or materially incorporate the intellectual property resulting from the grant-funded activities for pegzilarginase. Such royalties reduce to less than one percent after a mid-single digit multiple of the grant funds have been repaid to CPRIT in royalties. Such royalties are payable for so long as we have marketing exclusivity or patents covering the applicable product or service (or twelve years from commercial sale of product or service in certain countries if there is no such exclusivity or patent protection).

In December 2013, our wholly owned subsidiaries AECase, Inc. and AEMase, Inc. each entered into an exclusive, worldwide license agreement, including the right to grant sublicenses, with the University of Texas at Austin, or the University, for certain intellectual property owned by the University related to our program candidates for cystinase and methioninase. In January 2017, we and the University entered into an Amended and Restated Patent License Agreement, or the Restated License, which consolidated the two license agreements, revised certain obligations, and licensed additional patent applications and invention disclosures to us. The Restated License was amended in August 2017, December 2017, and December 2018 to revise diligence milestones and license additional patent applications, including our program candidates under our pegtarviliase and Cystinuria programs.

With respect to each program candidate covered by the Restated License, we could be required to pay the University up to \$6.4 million in milestone payments based on the achievement of certain development milestones, including clinical trials and regulatory approvals, the majority of which are due upon the achievement of later development milestones, including a \$5.0 million payment due on regulatory approval of a product and a \$0.5 million payment payable on final regulatory approval of a product for a second indication. In addition, we are required to pay the University a low single digit royalty on worldwide-net sales of products covered under the Restated License, together with a revenue share on non-royalty consideration received from sublicensees. The rate of the revenue share ranges from 6.5% to 25% depending on the date the sublicense agreement is signed. The University may terminate the agreement under certain circumstances, including for a breach by us that is not cured within 30 or 60 days of notice (depending on the type of breach), or if we or any of our affiliates or sublicensees participate in any proceeding to challenge the licensed patent rights (unless, with respect to sublicensees, we terminate the applicable sublicense).

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

AEGLEA BIOTHERAPEUTICS, INC.

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Aeglea BioTherapeutics, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Aeglea BioTherapeutics, Inc. and its subsidiaries (the “Company”) as of December 31, 2022 and 2021, and the related consolidated statements of operations, of comprehensive loss, of changes in stockholders’ equity and of cash flows for each of the three years in the period ended December 31, 2022, including the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022 in conformity with accounting principles generally accepted in the United States of America.

Substantial Doubt About the Company’s Ability to Continue as a Going Concern

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, the Company has not generated any product revenues and has not achieved profitable operations. These conditions raise substantial doubt about the Company’s ability to continue as a going concern. Management’s plans in regard to these matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits of these consolidated financial statements in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Accrued Contracted Research and Development Costs

As described in Notes 2 and 6 to the consolidated financial statements, the Company has entered into various agreements with contract research organizations (CROs), contract manufacturing organizations (CMOs), and other outside service providers. Management records accruals based on estimates of services received and efforts expended pursuant to agreements established with CROs, CMOs, and other outside service providers. These estimates are typically based on contracted amounts applied to the proportion of work performed and determined through analysis with internal personnel and external service providers as to the progress or stage of completion of the services. The Company's research and development expense for the year ended December 31, 2022 was \$59 million, a portion of which relates to contracted research and development costs. Within accrued and other current liabilities, management has accrued \$7 million of contracted research and development costs as of December 31, 2022.

The principal consideration for our determination that performing procedures relating to accrued contracted research and development costs is a critical audit matter is a high degree of auditor effort in performing procedures related to management's estimate of the accrued contracted research and development costs.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures also included, among others (i) testing management's process for estimating accrued contracted research and development costs, (ii) testing the completeness and accuracy of the data used to develop the estimate, (iii) testing the completeness and accuracy of costs incurred, on a sample basis, by tracing information to the underlying contracts, purchase orders, invoices and information received from certain third party service providers, where applicable, and (iv) evaluating the reasonableness of the estimated costs incurred for the services which have not been invoiced by tracing to underlying supporting documentation, such as underlying contracts, purchase orders and information received from certain third party service providers, where applicable.

/s/ PricewaterhouseCoopers LLP
Austin, Texas

March 2, 2023, except for the effects of the reverse stock split discussed in Note 14 to the consolidated financial statements, as to which the date is November 15, 2023

We have served as the Company's auditor since 2014.

Aeglea BioTherapeutics, Inc.
Consolidated Balance Sheets

(In thousands, except share and per share amounts)

	December 31,	
	2022	2021
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	\$ 34,863	\$ 15,142
Marketable securities	20,848	77,986
Development receivable	375	815
Prepaid expenses and other current assets	6,172	4,948
Total current assets	62,258	98,891
Restricted cash	1,553	1,838
Property and equipment, net	3,220	4,549
Operating lease right-of-use assets	3,430	3,806
Other non-current assets	683	842
TOTAL ASSETS	\$ 71,144	\$109,926
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES		
Accounts payable	\$ 677	\$ 3,319
Operating lease liabilities	625	436
Deferred revenue	517	2,359
Accrued and other current liabilities	12,837	14,030
Total current liabilities	14,656	20,144
Non-current operating lease liabilities	4,004	4,608
Deferred revenue, net of current portion	2,179	1,217
Other non-current liabilities	—	16
TOTAL LIABILITIES	20,839	25,985
Commitments and Contingencies (Note 9)		
STOCKHOLDERS' EQUITY		
Preferred stock, \$0.0001 par value; 10,000,000 shares authorized as of December 31, 2022 and 2021; no shares issued and outstanding as of December 31, 2022 and 2021	—	—
Common stock, \$0.0001 par value; 20,000,000 shares authorized as of December 31, 2022 and 2021, 2,614,013 shares and 1,974,205 shares issued and outstanding as of December 31, 2022 and 2021, respectively	6	5
Additional paid-in capital	475,971	425,765
Accumulated other comprehensive (loss) income	(48)	(20)
Accumulated deficit	(425,624)	(341,809)
TOTAL STOCKHOLDERS' EQUITY	50,305	83,941
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	\$ 71,144	\$109,926

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

Aeglea BioTherapeutics, Inc.
Consolidated Statements of Operations

(In thousands, except share and per share amounts)

	Year Ended December 31,		
	2022	2021	2020
Revenue:			
License	\$ —	\$ 12,000	\$ —
Development fee	2,329	6,739	—
Total revenue	2,329	18,739	—
Operating expenses:			
Research and development	58,579	57,069	59,638
General and administrative	28,531	27,319	21,843
Total operating expenses	87,110	84,388	81,481
Loss from operations	(84,781)	(65,649)	(81,481)
Other income (expense):			
Interest income	837	111	593
Other expense, net	(7)	(122)	(5)
Total other income (expense)	830	(11)	588
Loss before income tax expense	(83,951)	(65,660)	(80,893)
Income tax benefit (expense)	136	(141)	—
Net loss	\$ (83,815)	\$ (65,801)	\$ (80,893)
Net loss per share, basic and diluted	\$ (24.86)	\$ (25.02)	\$ (37.89)
Weighted-average common shares outstanding, basic and diluted	3,371,231	2,629,784	2,134,869

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

Aeglea BioTherapeutics, Inc.
Consolidated Statements of Comprehensive Loss

(In thousands)

	<u>Year Ended December 31,</u>		
	<u>2022</u>	<u>2021</u>	<u>2020</u>
Net loss	\$(83,815)	\$(65,801)	\$(80,893)
Other comprehensive income (loss):			
Foreign currency translation adjustment	(35)	(1)	19
Unrealized gain (loss) on marketable securities	7	(30)	(59)
Total comprehensive loss	<u>\$(83,843)</u>	<u>\$(65,832)</u>	<u>\$(80,933)</u>

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

Aeglea BioTherapeutics, Inc.
Consolidated Statements of Changes in Stockholders' Equity
(In thousands)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive (Loss) Income	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balances—December 31, 2019	1,163	\$ 3	\$255,142	\$ 51	\$ (195,115)	\$ 60,081
Issuance of common stock and pre-funded warrants in connection with public and at-the-market offerings, net of offering costs	747	2	153,570	—	—	153,572
Issuance of common stock in connection with exercise of stock options	5	—	490	—	—	490
Issuance of common stock in connection with employee stock purchase plan	3	—	366	—	—	366
Stock-based compensation expense	—	—	6,256	—	—	6,256
Foreign currency translation adjustment	—	—	—	19	—	19
Unrealized loss on marketable securities	—	—	—	(59)	—	(59)
Net loss	—	—	—	—	(80,893)	(80,893)
Balances—December 31, 2020	<u>1,918</u>	<u>\$ 5</u>	<u>\$415,824</u>	<u>\$ 11</u>	<u>\$ (276,008)</u>	<u>\$ 139,832</u>
Issuance of common stock in connection with exercise of pre-funded warrants	40	—	—	—	—	—
Issuance of common stock in connection with exercise of stock options	13	—	1,449	—	—	1,449
Issuance of common stock in connection with employee stock purchase plan	3	—	454	—	—	454
Stock-based compensation expense	—	—	8,038	—	—	8,038
Foreign currency translation adjustment	—	—	—	(1)	—	(1)
Unrealized loss on marketable securities	—	—	—	(30)	—	(30)
Net loss	—	—	—	—	(65,801)	(65,801)
Balances—December 31, 2021	<u>1,974</u>	<u>\$ 5</u>	<u>\$425,765</u>	<u>\$ (20)</u>	<u>\$ (341,809)</u>	<u>\$ 83,941</u>
Issuance of common stock and pre-funded warrants in connection with registered direct offering, net of offering costs	430	1	42,873	—	—	42,874
Issuance of common stock in connection with exercise of pre-funded warrants	204	—	—	—	—	—
Issuance of common stock in connection with employee stock purchase plan	6	—	222	—	—	222
Stock-based compensation expense	—	—	7,111	—	—	7,111
Foreign currency translation adjustment	—	—	—	(35)	—	(35)
Unrealized gain (loss) on marketable securities	—	—	—	7	—	7
Net loss	—	—	—	—	(83,815)	(83,815)
Balances—December 31, 2022	<u>2,614</u>	<u>\$ 6</u>	<u>\$475,971</u>	<u>\$ (48)</u>	<u>\$ (425,624)</u>	<u>\$ 50,305</u>

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

Aeglea BioTherapeutics, Inc.
Consolidated Statements of Cash Flows

(In thousands)

	Year Ended December 31,		
	2022	2021	2020
CASH FLOWS FROM OPERATING ACTIVITIES			
Net loss	\$(83,815)	\$ (65,801)	\$ (80,893)
Adjustments to reconcile net loss to net cash used in operating activities:			
Stock-based compensation	7,111	8,038	6,256
Depreciation and amortization	1,567	1,576	996
Purchase net (premium) discount on marketable securities	428	(344)	(286)
Net amortization of premium (accretion of discount) on marketable securities	(327)	548	73
Non-cash operating lease expense	397	425	628
Other	(2)	9	(9)
Changes in operating assets and liabilities:			
Development receivable	440	(815)	—
Accounts payable	(2,641)	1,065	(544)
Prepaid expenses and other assets	(1,144)	(1,216)	(1,101)
Deferred revenue	(880)	3,576	—
Operating lease liabilities	(435)	(404)	251
Accrued and other liabilities	(843)	(373)	(1,146)
Net cash used in operating activities	<u>(80,144)</u>	<u>(53,716)</u>	<u>(75,775)</u>
CASH FLOWS FROM INVESTING ACTIVITIES			
Purchases of property and equipment	(38)	(573)	(4,280)
Purchases of marketable securities	(39,500)	(133,079)	(129,000)
Proceeds from maturities and sales of marketable securities	96,546	111,033	125,676
Net cash provided by (used in) investing activities	<u>57,008</u>	<u>(22,619)</u>	<u>(7,604)</u>
CASH FLOWS FROM FINANCING ACTIVITIES			
Proceeds from issuance of common stock and pre-funded warrants in registered direct offering, net of offering costs	42,874	—	153,716
Proceeds from employee stock plan purchases and stock option exercises	222	1,903	816
Principal payments on finance lease obligation	(418)	(510)	(20)
Net cash provided by financing activities	<u>42,678</u>	<u>1,393</u>	<u>154,512</u>
Effect of exchange rate on cash, cash equivalents, and restricted cash	(106)	(15)	51
NET (DECREASE) INCREASE IN CASH, CASH EQUIVALENTS, AND RESTRICTED CASH	<u>19,436</u>	<u>(74,957)</u>	<u>71,184</u>
CASH, CASH EQUIVALENTS, AND RESTRICTED CASH			
Beginning of period	16,980	91,937	20,753
End of period	<u>\$ 36,416</u>	<u>\$ 16,980</u>	<u>\$ 91,937</u>
Supplemental Disclosure of Non-Cash Investing and Financing Information:			
Leased assets obtained in exchange for lease obligations	\$ 21	\$ 872	\$ 172
Unpaid amounts related to purchase of property and equipment	\$ —	\$ —	\$ 224

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

Aeglea BioTherapeutics, Inc.
Notes to Consolidated Financial Statements

1. The Company and Basis of Presentation

Aeglea BioTherapeutics, Inc. (“Aeglea” or the “Company”) is a clinical-stage biotechnology company developing human enzyme therapeutics to benefit people with rare metabolic diseases. The Company was formed as a Limited Liability Company (LLC) in Delaware on December 16, 2013 under the name Aeglea BioTherapeutics Holdings, LLC and was converted from a Delaware LLC to a Delaware corporation on March 10, 2015. The Company operates in one segment and has its principal offices in Austin, Texas.

Liquidity

As of December 31, 2022, the Company had working capital of \$47.6 million, an accumulated deficit of \$425.6 million, and cash, cash equivalents, marketable securities, and restricted cash of \$57.3 million. The Company has not generated any product revenues and has not achieved profitable operations. There is no assurance that profitable operations will ever be achieved, and, if achieved, could be sustained on a continuing basis. In addition, development activities, clinical and nonclinical testing, and commercialization of the Company’s products will require significant additional financing.

The Company is subject to a number of risks similar to other life science companies, including, but not limited to, risks related to the successful discovery, development, and commercialization of product candidates, raising additional capital, development of competing drugs and therapies, protection of proprietary technology and market acceptance of the Company’s products. As a result of these and other factors and the related uncertainties, there can be no assurance of the Company’s future success.

In accordance with ASC 205-40, Going Concern, the Company has evaluated whether there are conditions and events, considered in the aggregate, that raise substantial doubt about the Company’s ability to continue as a going concern within one year after the date the financial statements included in this Annual Report on Form 10-K are issued. Based upon the Company’s current operating plans, the Company believes that it has sufficient resources to fund operations into the fourth quarter of 2023 with its existing cash, cash equivalents, and marketable securities. Accordingly, based on its recurring losses from operations incurred since inception, the expectation of continued operating losses, and the need to raise additional capital to finance its future operations, the Company determined that there is substantial doubt about the Company’s ability to continue as a going concern within twelve months of the issuance date of these financial statements. The accompanying consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty and assumes the Company will continue as a going concern through the realization of assets and satisfaction of liabilities and commitments in the ordinary course of business. The Company plans to address this condition through the sale of common stock in public offerings and/or private placements, debt financings, or through other capital sources, including collaborations with other companies or other strategic transactions.

Although the Company has been successful in raising capital in the past, there is no assurance that it will be successful in obtaining such additional financing on terms acceptable to the Company, if at all, nor is it considered probable under the accounting standards. If the Company is unable to obtain sufficient funding on acceptable terms, it could be forced to delay, reduce or eliminate some or all of its research and development programs or commercialization activities, which could materially adversely affect its business prospects or its ability to continue operations.

Basis of Presentation

The consolidated financial statements have been prepared in conformity with generally accepted accounting principles in the United States (“U.S. GAAP”) as defined by the Financial Accounting Standards Board (“FASB”) and include the accounts of the Company and its wholly owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

2. Summary of Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. Management bases its estimates on historical experience and on various other market-specific and relevant assumptions that management believes to be reasonable under the circumstances, the results of which form the basis for making judgements about the carrying value of assets, liabilities, and equity and the amount of revenues and expenses. Estimates are used in accounting for, among other items, accrued research and development costs and revenue recognition. Actual results could differ materially from those estimates.

Cash and Cash Equivalents

The Company considers all highly liquid investments with original maturities of three months or less from the date of purchase to be cash equivalents. Cash equivalents consist of money market funds and debt securities and are stated at fair value.

Marketable Securities

All investments have been classified as available-for-sale and are carried at estimated fair value as determined based upon quoted market prices or pricing models for similar securities. Management determines the appropriate classification of its investments in debt securities at the time of purchase. The Company may hold securities with stated maturities greater than one year until maturity. All available-for-sale securities are considered available to support current operations and are classified as current assets. The Company presents credit losses as an allowance rather than as a reduction in the amortized cost of the available-for-sale securities.

For available-for-sale debt securities in an unrealized loss position, the Company first assesses whether it intends to sell, or it is more likely than not that it will be required to sell the security before recovery of its amortized cost basis. If either of the criteria regarding intent or requirement to sell is met, the security's amortized cost basis is written down to fair value and recognized in other income (expense) in the results of operations. For available-for-sale debt securities that do not meet the aforementioned criteria, the Company evaluates whether the decline in fair value has resulted from credit losses or other factors. In making this assessment, management considers the extent to which fair value is less than amortized cost, any changes to the rating of the security by a rating agency, and adverse conditions specifically related to the security, among other factors. If this assessment indicates that a credit loss exists, an allowance is recorded for the difference between the present value of cash flows expected to be collected and the amortized cost basis of the security. Impairment losses attributable to credit loss factors are charged against the allowance when management believes an available-for-sale security is uncollectible or when either of the criteria regarding intent or requirement to sell is met.

Any unrealized losses from declines in fair value below the amortized cost basis as a result of non-credit loss factors is recognized as a component of accumulated other comprehensive (loss) income, along with unrealized gains. Realized gains and losses and declines in fair value, if any, on available-for-sale securities are included in other income (expense) in the results of operations. The cost of securities sold is based on the specific-identification method.

Restricted Cash

Restricted cash consists of money market accounts held by financial institutions as collateral for the Company's obligations under a credit agreement and a facility lease for the Company's corporate headquarters in Austin, Texas.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to a concentration of credit risk consist of cash, cash equivalents, marketable securities, and restricted cash. The Company's investment policy limits investments to high credit quality securities issued by the U.S. government, U.S. government-sponsored agencies, highly rated banks, and corporate issuers, subject to certain concentration limits and restrictions on maturities. The Company's cash, cash equivalents, marketable securities, and restricted cash are held by financial institutions that management believes are of high credit quality. Amounts on deposit may at times exceed federally insured limits. The Company has not experienced any losses on its deposits of cash, cash equivalents, and restricted cash and its accounts are monitored by management to mitigate risk. The Company is exposed to credit risk in the event of default by the financial institutions holding its cash, cash equivalents, and restricted cash, and bond issuers.

Property and Equipment

Property and equipment are stated at cost, net of accumulated depreciation and amortization. Depreciation and amortization are computed using the straight-line method over the estimated useful lives of the assets. Repairs and maintenance that do not extend the life or improve an asset are expensed as incurred. Upon retirement or sale, the cost of disposed assets and their related accumulated depreciation and amortization are removed from the balance sheet. Any gain or loss is credited or charged to operations.

The useful lives of the property and equipment are as follows:

Laboratory equipment	5 years
Furniture and office equipment	5 years
Computer equipment	3 years
Software	3 years
Leasehold improvements	Shorter of remaining lease term or estimated useful life

Impairment of Long-Lived Assets

Long-lived assets are reviewed for indications of possible impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability is measured by comparison of the carrying amounts to the future undiscounted cash flows attributable to these assets. An impairment loss is recognized to the extent an asset group is not recoverable, and the carrying amount exceeds the fair value. There were no impairments of long-lived assets for the years ended December 31, 2022, 2021, and 2020.

Accrued Research and Development Costs

The Company records the costs associated with research nonclinical studies, clinical trials, and manufacturing development as incurred. These costs are a significant component of the Company's research and development expenses, with a substantial portion of the Company's on-going research and development activities conducted by third-party service providers, including contract research and manufacturing organizations.

The Company accrues for expenses resulting from obligations under agreements with contract research organizations ("CROs"), contract manufacturing organizations ("CMOs"), and other outside service providers for which payment flows do not match the periods over which materials or services are provided to the Company. Accruals are recorded based on estimates of services received and efforts expended pursuant to agreements established with CROs, CMOs, and other outside service providers. These estimates are typically based on contracted amounts applied to the proportion of work performed and determined through analysis with internal personnel and external service providers as to the progress or stage of completion of the services. The Company makes significant judgments and estimates in determining the accrual balance in each reporting period. In the event advance payments are made to a CRO, CMO, or outside service provider, the payments will be recorded as a prepaid asset which will be amortized as the contracted services are performed. As actual costs become known, the Company adjusts its accruals. Inputs, such as the services performed, the number of patients enrolled, or the study duration, may vary from the Company's estimates, resulting in adjustments to research and development expense in future periods. Changes in these estimates that result in material changes to the Company's accruals could materially affect the Company's results of operations. Historically, the Company has not experienced any material deviations between accrued and actual research and development expenses.

Leases

The Company determines if an arrangement is a lease at inception. Right-of-use ("ROU") assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments arising from the lease. The classification of the Company's leases as operating or finance leases along with the initial measurement and recognition of the associated ROU assets and lease liabilities is performed at the lease commencement date. The measurement of lease liabilities is based on the present value of future lease payments over the lease term. As the Company's leases do not provide an implicit rate, the Company uses its incremental borrowing rate based on the information available at the lease commencement date in determining the present value of future lease payments. To determine the incremental borrowing rate, the Company uses the lease-term appropriate current treasury bond rates adjusted for collateral and inflation risks combined with quoted bank financing rates. The ROU asset is based on the measurement of the lease liability and also includes any lease payments made prior to or on lease commencement and excludes lease incentives and initial direct costs incurred, as applicable. The lease terms may include options to extend or terminate the lease when it is reasonably certain the Company will exercise any such options. Rent expense for the Company's operating leases is recognized on a straight-line basis over the lease term. Amortization expense for the ROU asset associated with its finance leases is recognized on a straight-line basis over the term of the lease and interest expense associated with its finance leases is recognized on the balance of the lease liability using the effective interest method based on the estimated incremental borrowing rate.

The Company has lease agreements with lease and non-lease components. As allowed under Topic 842, the Company has elected to not separate lease and non-lease components for any leases involving real estate and office equipment classes of assets and, as a result, accounts for the lease and non-lease components as a single lease component. The Company has also elected to not apply the recognition requirement of Topic 842 to leases with a term of 12 months or less for all classes of assets.

Fair Value of Financial Instruments

The Company uses fair value measurements to record fair value adjustments to certain financial and non-financial assets and liabilities and to determine fair value disclosures. The accounting standards define fair value, establish a framework for measuring fair value, and require disclosures about fair value measurements. Fair value is defined as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities required to be recorded at fair value, the principal or most advantageous market in which the Company would transact are considered along with assumptions that market participants would use when pricing the asset or liability, such as inherent risk, transfer restrictions, and risk of nonperformance.

The accounting standard for fair value establishes a fair value hierarchy based on three levels of inputs, the first two of which are considered observable and the last unobservable, that requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. A financial instrument's categorization within the fair value hierarchy is based upon the lowest level of input that is significant to the fair value measurement.

The three levels of inputs that may be used to measure fair value are as follows:

- Level 1: Observable inputs, such as quoted prices in active markets for identical assets or liabilities.
- Level 2: Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.
- Level 3: Valuations based on unobservable inputs to the valuation methodology and including data about assumptions that market participants would use in pricing the asset or liability based on the best information available under the circumstances.

Financial instruments carried at fair value include cash, cash equivalents, marketable securities, and restricted cash. The carrying amounts of accounts payable and accrued liabilities approximate fair value due to their relatively short maturities.

Revenue Recognition

Under ASC Topic 606, "Revenue from Contracts with Customers" ("Topic 606"), an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration that the entity expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that an entity determines are within the scope of Topic 606, the entity performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price, including variable consideration, if any; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation.

The Company assesses its license arrangements within the scope of Topic 606 in accordance with this framework as follows:

License revenue

The Company assesses whether the goods or services promised within each contract are distinct to identify those that are performance obligations. This assessment involves subjective determinations and requires management to make judgments about the individual promised goods or services and whether such are separable from the other aspects of the contractual relationship. In assessing whether a promised good or service is distinct, and therefore a performance obligation, the Company considers factors such as the research, stage of development of the licensed product, manufacturing and commercialization capabilities of the customer and the availability of the associated expertise in the general marketplace. The Company also considers the intended benefit of the contract in assessing whether a promised good or service is separately identifiable from other promises in the contract. If a promised good or service is not distinct, the Company is required to combine that good or service with other promised goods or services until it identifies a bundle of goods or services that is distinct. Arrangements that include rights to additional goods or services that are exercisable at a customer's discretion are generally considered options. The Company assesses if these options provide a material right to the customer and if so, they are considered performance obligations.

The transaction price is determined and allocated to the identified performance obligations in proportion to their stand-alone selling prices (“SSP”) on a relative SSP basis. SSP is based on observable prices of the performance obligations or, when such prices are not observable, are estimated. The estimation of SSP may include factors such as forecasted revenues or costs, development timelines, discount rates, probabilities of technical and regulatory success, and considerations such as market conditions and entity-specific factors. In certain circumstances, the Company may apply the residual method to determine the SSP of a good or service if the SSP is considered highly variable or uncertain. The Company validates the SSP for performance obligations by evaluating whether changes in the key assumptions used to determine the SSP will have a significant effect on the allocation of arrangement consideration between multiple performance obligations.

If the consideration promised in a contract includes a variable amount, the Company estimates the amount of consideration to which it will be entitled in exchange for transferring the promised goods or services to a customer. The Company determines the amount of variable consideration by using the expected value method or the most likely amount method. The Company includes the amount of estimated variable consideration in the transaction price to the extent that it is probable that a significant reversal of cumulative revenue recognized will not occur. At the end of each subsequent reporting period, the Company re-evaluates the estimated variable consideration included in the transaction price and any related constraint, and if necessary, adjusts its estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis in the period of adjustment.

If an arrangement includes development, regulatory or commercial milestone payments, the Company evaluates whether the milestones are considered likely of being reached and estimates the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant cumulative revenue reversal would not occur, the associated milestone value is included in the transaction price. Milestone payments that are not within the Company’s control or the licensee’s control, such as regulatory approvals, are generally not considered likely of being achieved until those approvals are received.

In determining the transaction price, the Company adjusts consideration for the effects of the time value of money if the timing of payments provides the Company with a significant benefit of financing. The Company does not assess whether a contract has a significant financing component if the expectation at contract inception is such that the period between payment by the licensee and the transfer of the promised goods or services to the licensees will be one year or less. For arrangements with licenses of intellectual property that include sales-based royalties, including milestone payments based on the level of sales, and if the license is deemed to be the predominant item to which the royalties relate, the Company recognizes royalty revenue and sales-based milestones at the later of (i) when the related sales occur, or (ii) when the performance obligation to which the royalty has been allocated has been satisfied.

The Company recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) each performance obligation is satisfied at a point in time or over time, and if over time, recognition is based on the use of an output or input method.

The Company’s contracts may be modified for changes in the customer’s requirements. If contract modifications are for additional goods and services that are distinct from the existing contract, the modification will be accounted for as either a separate contract or a termination of the existing contract, depending on whether the additional goods or services reflects the SSP.

If the additional goods or services in a contract modification are not distinct from the existing contract, they are accounted for as if they were part of the original contract. The effect of the contract modification on the transaction price and the measure of progress for the performance obligation to which it relates is recognized as an adjustment to revenue on a cumulative catch-up basis. The cumulative catch-up adjustment is calculated using an updated measure of progress applied to the sum of (1) the remaining consideration allocated to the partially satisfied performance obligation and (2) the revenue already recognized on that performance obligation. The revenue recognized for fully satisfied goods or services and distinct from the remaining performance obligations is not altered by the modification.

Collaborative arrangements

The Company analyzes its license arrangements to assess whether such arrangements involve joint operating activities performed by parties that are both active participants in the activities and exposed to significant risks and rewards dependent on the commercial success of such activities and therefore within the scope of ASC Topic 808, Collaborative Arrangements (“Topic 808”). This assessment is performed throughout the life of the arrangement based on changes in the responsibilities of all parties in the arrangement. For arrangements within the scope of Topic 808 that contain multiple elements, the Company first determines which elements of the collaboration are deemed to be within the scope of Topic 808 and which elements of the collaboration are more reflective of a vendor-customer relationship and therefore within the scope of Topic 606. For elements of collaboration arrangements that are accounted for pursuant to Topic 808, an appropriate recognition method is determined and applied consistently, either by analogy to authoritative accounting literature or by applying a reasonable and rational policy election. For those elements of the arrangement that are accounted for pursuant to Topic 606, the Company applies the five-step model described above.

Research and Development Costs

Research and development costs are expensed as incurred. Research and development costs include, but are not limited to, salaries, benefits, travel, stock-based compensation, consulting costs, contract research service costs, laboratory supplies and facilities, contract manufacturing costs, and costs paid to other third parties that conduct research and development activities on the Company’s behalf. Amounts incurred in connection with license agreements are also included in research and development expense.

Advance payments for goods or services to be rendered in the future for use in research and development activities are recorded as a prepaid asset and expensed as the related goods are delivered or the services are performed.

Stock-Based Compensation

The Company recognizes the cost of stock-based awards granted to employees and non-employees based on the estimated grant-date fair values of the awards. The fair values of stock options are estimated on the date of grant using the Black-Scholes option pricing model. The fair values of restricted stock units (“RSUs”) are based on the fair value of the Company’s common stock on the date of the grant. The value of the award is recognized as compensation expense on a straight-line basis over the requisite service period. Forfeitures are recognized when they occur, which may result in the reversal of compensation costs in subsequent periods as the forfeitures arise. Compensation expense for employee and non-employee share-based payment awards with performance conditions is recognized when the performance condition is deemed probable.

Income Taxes

The Company and its ten wholly owned subsidiary corporations use the asset and liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences between the financial statements and the tax bases of assets and liabilities. Additionally, any changes in income tax laws are immediately recognized in the year of enactment.

A valuation allowance is established against the deferred tax assets to reduce their carrying value to an amount that is more likely than not to be realized. The deferred tax assets and liabilities are classified as noncurrent along with the related valuation allowance. Due to a lack of earnings history, the net deferred tax assets have been fully offset by a valuation allowance.

The Company recognizes benefits of uncertain tax positions if it is more likely than not that such positions will be sustained upon examination based solely on the technical merits, as the largest amount of benefits that is more likely than not to be realized upon the ultimate settlement. The Company’s policy is to recognize interest and penalties related to the unrecognized tax benefits as a component of income tax expense, if applicable. As of December 31, 2022 and 2021, the Company had no unrecognized tax benefits and there were no interest or penalties incurred by the Company in the years ended December 31, 2022, 2021, or 2020.

Comprehensive Loss

Comprehensive loss is the change in stockholders’ equity from transactions and other events and circumstances other than those resulting from investments by stockholders and distributions to stockholders. The Company’s other comprehensive income (loss) is currently comprised of changes in unrealized losses and gains on available-for-sale securities and foreign currency translation adjustments reflecting the cumulative effect of changes in exchange rates between the foreign entity’s functional currency and the reporting currency.

3. Fair Value Measurements

The Company measures and reports certain financial instruments as assets and liabilities at fair value on a recurring basis. The following tables sets forth the fair value of the Company's financial assets and liabilities at fair value on a recurring basis based on the three-tier fair value hierarchy (in thousands):

	December 31, 2022			
	Level 1	Level 2	Level 3	Total
Financial Assets				
Money market funds	\$ 15,250	\$ —	\$ —	\$ 15,250
Commercial paper	—	23,641	—	23,641
U.S. government securities	—	4,230	—	4,230
Corporate bonds	—	3,732	—	3,732
Total financial assets	\$15,250	\$31,603	\$ —	\$46,853

	December 31, 2021			
	Level 1	Level 2	Level 3	Total
Financial Assets				
Money market funds	\$ 8,888	\$ —	\$ —	\$ 8,888
Commercial paper	—	65,412	—	65,412
Corporate bonds	—	12,574	—	12,574
Total financial assets	\$8,888	\$77,986	\$ —	\$86,874

The Company measures the fair value of money market funds on quoted prices in active markets for identical asset or liabilities. The Level 2 assets include U.S. government agency securities, commercial paper and corporate bonds, and are valued based on quoted prices for similar assets in active markets and inputs other than quoted prices that are derived from observable market data.

The Company evaluates transfers between levels at the end of each reporting period. There were no transfers between Level 1 and Level 2 during the periods presented.

4. Cash Equivalents and Marketable Securities

The following tables summarize the estimated fair value of the Company's cash equivalents and marketable securities and the gross unrealized gains and losses (in thousands):

	December 31, 2022			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Cash equivalents:				
Money market funds	\$ 15,250	\$ —	\$ —	\$ 15,250
Commercial paper	7,021	1	(2)	7,020
U.S. government securities	3,736	—	(1)	3,735
Total cash equivalents	26,007	1	(3)	26,005
Marketable securities:				
Commercial paper	16,644	2	(25)	16,621
Corporate bonds	3,738	—	(6)	3,732
U.S. government securities	495	—	—	495
Total marketable securities	\$ 20,877	\$ 2	\$ (31)	\$ 20,848

	December 31, 2021			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Cash equivalents:				
Money market funds	\$ 8,888	\$ —	\$ —	\$ 8,888
Total cash equivalents	8,888	—	—	8,888
Marketable securities:				
Commercial paper	65,443	3	(34)	65,412
Corporate bonds	12,581	—	(7)	12,574
Total marketable securities	\$ 78,024	\$ 3	\$ (41)	\$ 77,986

The following table summarizes the available-for-sale securities in an unrealized loss position for which an allowance for credit losses has not been recorded as of December 31, 2022 and 2021, aggregated by major security type and length of time in a continuous unrealized loss position:

	December 31, 2022					
	Less Than 12 Months		12 Months or Longer		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
Commercial paper	\$17,699	\$ (27)	\$ —	\$ —	\$17,699	\$ (27)
U.S. government securities	3,735	(1)	—	—	3,735	(1)
Corporate bonds	3,732	(6)	—	—	3,732	(6)
Total marketable securities	\$25,166	\$ (34)	\$ —	\$ —	\$25,166	\$ (34)

	December 31, 2021					
	Less Than 12 Months		12 Months or Longer		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
Commercial paper	\$47,425	\$ (34)	\$ —	\$ —	\$47,425	\$ (34)
Corporate bonds	12,573	(7)	—	—	12,573	(7)
Total marketable securities	\$59,998	\$ (41)	\$ —	\$ —	\$59,998	\$ (41)

The Company evaluated its securities for credit losses and considered the decline in market value to be primarily attributable to current economic and market conditions and not to a credit loss or other factors. Additionally, the Company does not intend to sell the securities in an unrealized loss position and does not expect they will be required to sell the securities before recovery of the unamortized cost basis. As of December 31, 2022 and 2021, an allowance for credit losses had not been recognized. Given the Company's intent and ability to hold such securities until recovery, and the lack of significant change in credit risk of these investments, the Company does not consider these marketable securities to be impaired as of December 31, 2022 and 2021.

There were no realized gains or losses on marketable securities for the years ended December 31, 2022 and 2021. Interest on marketable securities is included in interest income. Accrued interest receivable on available-for-sale debt securities totaled \$0.1 million and \$0.1 million as of December 31, 2022 and 2021, respectively, and is excluded from the estimate of credit losses.

The following table summarizes the contractual maturities of the Company's marketable securities at estimated fair value (in thousands):

	December 31,	
	2022	2021
Due in one year or less	\$20,848	\$77,986
Due in 1 - 2 years	—	—
Total marketable securities	\$20,848	\$77,986

The Company may sell investments at any time for use in current operations even if they have not yet reached maturity. As a result, the Company classifies marketable securities, including securities with maturities beyond twelve months as current assets.

5. Property and Equipment, Net

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

	December 31,	
	2022	2021
Laboratory equipment	\$ 2,257	\$ 2,245
Furniture and office equipment	520	520
Computer equipment	73	54
Software	121	139
Leasehold improvements	4,393	4,393
Property and equipment, gross	7,364	7,351
Less: Accumulated depreciation and amortization	(4,144)	(2,802)
Property and equipment, net	<u>\$ 3,220</u>	<u>\$ 4,549</u>

Depreciation and amortization expense for the years ended December 31, 2022, 2021, and 2020 was \$1.4 million, \$1.4 million, and \$1.0 million, respectively. All of the Company's long-lived assets are located in the United States.

6. Accrued and Other Current Liabilities

Accrued and other current liabilities consist of the following (in thousands):

	December 31,	
	2022	2021
Accrued compensation	\$ 4,589	\$ 4,988
Accrued contracted research and development costs	6,972	5,995
Accrued professional and consulting fees	946	2,264
Other	330	783
Total accrued and other current liabilities	<u>\$ 12,837</u>	<u>\$ 14,030</u>

7. Leases

The Company leases certain office space, laboratory facilities, and equipment. These leases require monthly lease payments that may be subject to annual increases throughout the lease term. Certain of these leases also include renewal options at the election of the Company to renew or extend the lease for an additional three to five years. These optional periods have not been considered in the determination of the right-of-use assets or lease liabilities associated with these leases as the Company did not consider it reasonably certain it would exercise the options. The Company performed evaluations of its contracts and determined it has both operating and finance leases. Variable lease expense for these leases primarily consists of common area maintenance and other operating costs.

In April 2019, the Company entered into a lease agreement (the "Las Cimas Lease") for its corporate headquarters and laboratory space located in Austin, Texas. The Las Cimas Lease includes approximately 30,000 square feet and commenced on April 30, 2019, with an expiration on April 30, 2028. The Company posted a customary letter of credit in the amount of \$1.5 million as security, which is subject to automatic reductions per the terms of the Las Cimas Lease. A tenant allowance of up to \$1.0 million was provided by the lessor and fully reimbursed to the Company.

The following table summarizes the Company's recognition of its operating and finance leases (in thousands):

	Classification	December 31,	
		2022	2021
Assets			
Operating	Operating lease right-of-use assets	\$3,430	\$3,806
Finance	Other non-current assets	597	798
Total leased assets		<u>4,027</u>	<u>4,604</u>
Leases			
Current			
Operating	Operating lease liabilities	625	436
Finance	Accrued and other current liabilities	16	418
Non-current			
Operating	Non-current operating lease liabilities	4,004	4,608
Finance	Other non-current liabilities	—	16
Total lease liabilities		<u>\$4,645</u>	<u>\$5,478</u>

The following table summarizes the weighted-average remaining lease term and discount rates for the Company's operating and finance leases:

	December 31,	
	2022	2021
Lease term (years)		
Operating leases	5.3	6.3
Finance leases	0.6	0.5
Discount rate		
Operating leases	10.6%	10.7%
Finance leases	10.2%	6.7%

The following table summarizes the lease costs pertaining to the Company's operating leases (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Operating lease cost	\$ 910	\$ 991	\$1,258
Variable lease cost	472	519	665
Total lease cost	<u>\$1,382</u>	<u>\$1,510</u>	<u>\$1,923</u>

Cash paid for amounts included in the measurement of operating lease liabilities during the years ended December 31, 2022 and 2021 was \$0.9 million and \$1.1 million, respectively, and was included within net cash used in operating activities in the cash flows.

The maturities of the Company's operating and finance lease liabilities as of December 31, 2022 were as follows (in thousands):

	Operating Leases	Finance Leases
2023	\$ 1,078	\$ 16
2024	1,103	—
2025	1,129	—
2026	1,163	—
2027	1,198	—
Thereafter	403	—
Total lease payments	<u>6,074</u>	<u>16</u>
Less:		
Imputed interest	(1,445)	—
Total	<u>\$ 4,629</u>	<u>\$ 16</u>

8. Stockholders' Equity

The Company is authorized to issue 30,000,000 shares of capital stock of which 20,000,000 shares are designated as common stock and 10,000,000 shares are designated as preferred stock, all with a par value of \$0.0001 per share. Each holder of common stock is entitled to one vote for each share of common stock held. The Company's common stock is not entitled to preemptive rights, and is not subject to conversion, redemption or sinking fund provisions. Subject to preferences that may apply to any shares of preferred stock outstanding at the time, the holders of common stock are entitled to receive dividends out of funds legally available if the board of directors, in its discretion, determines to issue dividends and then only at the times and in the amounts that the board of directors may determine. As of December 31, 2022 and 2021, no common stock dividends had been declared by the board of directors and there were no shares of preferred stock outstanding.

Registered Direct Offering

In May 2022, the Company issued and sold 430,107 shares of common stock at an offering price of \$40.00 per share and pre-funded warrants to purchase up to 694,892 shares of common stock at an offering price of \$39.9975 per warrant (representing the price per share of common stock sold in the offering minus the \$0.0025 exercise price per warrant) in a registered direct offering pursuant to a shelf registration statement on Form S-3. The net proceeds to the Company from this offering were approximately \$42.9 million, after deducting placement agent fees and offering costs of \$2.1 million.

Follow-on Public Offerings

In February 2019, the Company issued and sold 185,000 shares of common stock at a public offering price of \$200.00 per share and pre-funded warrants to purchase up to 160,000 shares of common stock at a public offering price of \$199.9975 per warrant in an underwritten public offering pursuant to a shelf registration statement on Form S-3. This includes the full exercise by the underwriters of their option to purchase up to 45,000 additional shares of common stock. The net proceeds to the Company from this public offering were \$64.5 million, after deducting underwriting discounts and commissions of \$4.1 million and offering costs of \$0.4 million.

In April 2020, the Company issued and sold 617,692 shares of common stock at a public offering price of \$118.75 per share and pre-funded warrants to purchase up to 544,413 shares of common stock at a public offering price of \$118.7475 per warrant in an underwritten public offering pursuant to a shelf registration statement on Form S-3. This includes the full exercise by the underwriters of their option to purchase up to 151,578 additional shares of common stock. The net proceeds to the Company from this public offering were \$129.0 million, after deducting underwriting discounts and commissions of \$8.2 million and offering costs of \$0.8 million.

Pre-Funded Warrants

In February 2019, April 2020 and May 2022, the Company issued pre-funded warrants to purchase the Company's common stock in underwritten public offerings at the offering price of the common stock, less the \$0.0025 per share exercise price of each warrant. The warrants were recorded as a component of stockholders' equity within additional paid-in capital and have no expiration date. Per the terms of the warrant agreements, the outstanding warrants to purchase shares of common stock may not be exercised if the holder's ownership of the Company's common stock would exceed 4.99% ("Maximum Ownership Percentage") or 9.99% for certain holders. By written notice to the Company, each holder may increase or decrease the Maximum Ownership Percentage to any other percentage (not in excess of 19.99% for the majority of such warrants). The revised Maximum Ownership Percentage would be effective 61 days after the notice is received by the Company.

As of December 31, 2022, the following pre-funded warrants to purchase common stock were issued and outstanding:

<u>Issue Date</u>	<u>Expiration Date</u>	<u>Exercise Price</u>	<u>Number of Warrants Outstanding</u>
February 2019	None	\$ 0.0025	150,000
April 2020	None	\$ 0.0025	474,413
May 2022	None	\$ 0.0025	531,250
Total pre-funded warrants			<u>1,155,663</u>

At-The-Market Offering

In April 2020, the Company entered into a new sales agreement with JonesTrading Institutional Services LLC, as sales agent, to issue and sell shares of its common stock for an aggregate offering price of \$60.0 million under an at-the-market (“2020 ATM”) offering program. In the fourth quarter of 2020, the Company issued and sold 129,803 shares of common stock under the 2020 ATM for gross proceeds of \$25.3 million, resulting in net proceeds of \$24.6 million, after deducting underwriting discounts, commissions, and offering costs.

9. Strategic License Agreements

Immedica Pharma AB License and Development Agreement

On March 21, 2021, the Company entered into an exclusive license and supply agreement with Immedica Pharma AB (“Immedica”). By entering into this agreement, the Company agreed to provide Immedica the following goods and services:

- i. Deliver an exclusive, sublicensable, license and know-how (the “License”) to develop and commercialize pegzilarginase (the “Product”) in the territory comprising the members states of the European Economic Area, United Kingdom, Switzerland, Andorra, Monaco, San Marino, Vatican City, Turkey, Saudi Arabia, United Arab Emirates, Qatar, Kuwait, Bahrain, and Oman (the “Territory”);
- ii. Complete the global pivotal PEACE (Pegzilarginase Effect on Arginase 1 Deficiency Clinical Endpoints) Phase 3 trial (“PEACE Trial”) and related Biologics License Application (“BLA”) package to file with the United States Food and Drug Administration (“FDA”), which will be leveraged by Immedica in obtaining the necessary regulatory approvals in the Territory; and
- iii. Perform a Pediatric Investigation Plan trial (“PIP Trial”) in order for Immedica to be able to receive certain regulatory approvals within the Territory.

In addition, the Company and Immedica formed a Joint Steering Committee (“JSC”) to provide oversight to the activities performed under the agreement; however, the substance of the Company’s participation in the JSC does not represent an additional promised service, but rather, a right of the Company to protect its own interests in the arrangement.

Further, the Company agreed to supply to Immedica, and Immedica agreed to purchase from the Company, substantially all commercial requirements of the Product. The terms of the agreement do not provide for either (i) an option to Immedica to purchase the Product from the Company at a discount from the standalone selling price or (ii) minimum purchase quantities. Finally, Immedica will bear (i) all costs and expenses for any development or commercialization of the Product in the Territory subject to the License exclusive of the Company’s promised goods and services summarized above and (ii) all costs and fees associated with applying for regulatory approval of the Product in the Territory. In July 2021, the Company modified the agreement with Immedica to provide certain additional services in relation to the PEACE Phase 3 Trial and BLA package performance obligation in exchange for the reimbursement of up to \$3.0 million of the actual costs incurred in relation to such incremental services.

The Company received a non-refundable payment of \$21.5 million and Immedica agreed to provide payment of 50% of the Company’s costs incurred in performing the PIP Trial up to a maximum of \$1.8 million. In addition, the Company has the ability to receive additional payments under the agreement of up to approximately \$120.8 million in regulatory and commercial milestone payments, assuming an exchange rate of \$1.07 to €1.00. The Company is also entitled to receive royalties in the mid-20 percent range on net sales of the Product in the Territory.

The Company concluded that Immedica meets the definition to be accounted for as a customer because the Company is delivering intellectual property and other services within the Company’s normal course of business, in which the parties are not jointly sharing the risks and rewards. Therefore, the Company concluded that the promises summarized above represent transactions with a customer within the scope of ASC 606. The Company determined that the following promises represent distinct promised services, and therefore, performance obligations: (i) the License, (ii) the PEACE Trial and BLA package, and (iii) the PIP Trial.

Specifically, in making these determinations, the Company considered the following factors:

- As of inception of the agreement, the Company had completed the Phase 1/2 clinical trial related to the Product and were conducting the ongoing PEACE Trial. Accordingly, the Company is not promising, nor expecting, to perform additional research and development activities pursuant to the agreement that would either significantly modify, customize or be considered highly interdependent or interrelated with pegzilarginase.

- The License represents functional intellectual property given the functionality of the License is not expected to change substantially as a result of the company's ongoing activities.
- The services necessary to complete the PEACE Trial, BLA package and PIP Trial could be performed by other parties.

Given that Immedica is not obligated to purchase any minimum amount or quantities of the Product, the supply of the Product for commercial use to Immedica was determined to be an option for Immedica, rather than a performance obligation of the Company at contract inception and will be accounted for if and when exercised. The Company also determined that Immedica's option to purchase the Product does not create a material right as the expected pricing is not at a discount.

The Company determined that the upfront fixed payment amount of \$21.5 million must be included in the transaction price. Additionally, the Company determined at inception of the arrangement that 50% of the estimated costs to be incurred in relation to the PIP Trial exceeded \$1.8 million and included the full reimbursement amount of \$1.8 million in the transaction price. Upon subsequent re-evaluation due to changing facts and circumstances, the Company determined the estimated costs are now less than the maximum allowable reimbursement and a portion of the variable consideration was constrained, which did not materially impact the revenue recognized to date. Additionally, upon the modification of the agreement in July 2021, the Company determined that the estimated costs to perform the additional services related to the PEACE Trial and BLA package exceeds the maximum allowable reimbursement of \$3.0 million. Therefore, the Company included an estimated total of \$3.6 million that will be due in relation to the PIP Trial, PEACE Trial, and BLA package in the transaction price and it is probable that a significant reversal will not occur in the future. In total, the modified transaction price was determined to be \$25.1 million.

The Company has allocated \$9.6 million and \$3.5 million of the modified transaction price to the PEACE Trial and BLA package and PIP Trial performance obligations, respectively, based on the stand-alone selling prices ("SSP"), which was based on the estimated costs that a third-party would charge in performing such services on a stand-alone basis. The SSP for the License was established at inception of the arrangement using a residual value approach due to the uniqueness of and lack of observable data related to the License, and without a specific analog from which to make reliable estimates, resulting in an allocation of \$12.0 million.

The potential regulatory milestone payments that the Company is eligible to receive were excluded from the transaction price, as the milestone amounts were fully constrained based on the probability of achievement, since the milestones relate to successful achievement of certain regulatory approvals, which might not be achieved. The Company determined that the royalties and commercial milestone payments relate predominantly to the license of intellectual property and are therefore excluded from the transaction price under the sales- or usage-based royalty exception of ASC 606. The Company will reevaluate the transaction price, including all constrained amounts, at the end of each reporting period and as uncertain events are resolved or other changes in circumstances occur, the Company will adjust its estimate of the transaction price as necessary. The Company will recognize the royalties and commercial milestone payments as revenue when the associated sales occur, and relevant sales-based thresholds are met. The Company assessed the arrangement with Immedica and concluded that a significant financing component does not exist.

The Company recognized revenue allocated to the License performance obligation at a point in time and upon transfer of the License. The Company completed the transfer of the know-how necessary for Immedica to benefit from the License in June 2021 and recognized \$12.0 million of revenue at that time. The development fee allocated to the PEACE Trial, BLA package and PIP Trial performance obligations will be recognized over time using an input method of costs incurred related to the performance obligations.

For the year ended December 31, 2022, the Company recognized revenue of \$2.3 million related to the PEACE Trial and BLA package performance obligation using a cost to cost model. The Company recognized revenue of \$6.7 million related to the PEACE Trial and BLA package performance obligation using a cost to cost model and \$12.0 million related to the transfer of the License for the year ended December 31, 2021 and no revenue for the year ended December 31, 2020. As of December 31, 2022, the Company has recorded deferred revenue of \$2.7 million associated with the license and supply agreement with Immedica, of which \$0.5 million is classified as current. As of December 31, 2021, the Company had recorded deferred revenue of \$3.6 million associated with the license and supply agreement with Immedica, of which \$2.4 million was classified as current.

Contract Balances from Customer Contract

The timing of revenue recognition, billings and cash collections results in contract assets and contract liabilities on the balance sheets. The Company recognizes license and development receivables based on billed services, which are derecognized upon reimbursement. When consideration is received, or such consideration is unconditionally due, from a customer prior to transferring goods or services to the customer under the terms of a contract, a contract liability is recorded. Contract liabilities are recognized as revenue after control of the goods or services is transferred to the customer and all revenue recognition criteria have been met.

The following table presents changes in the Company's contract liabilities for the periods presented (in thousands):

<u>Year Ended December 31, 2021</u>	<u>December 31, 2021</u>	<u>Additions</u>	<u>Deductions</u>	<u>December 31, 2022</u>
Contract liabilities:				
Deferred revenue	\$ 3,576	\$ 1,449	\$ (2,329)	\$ 2,696

The Company had no contract assets during the years ended December 31, 2022, 2021 and 2020 and no contract liabilities during the year ended December 31, 2020.

University of Texas at Austin License Agreement

In December 2013, two of the Company's wholly owned subsidiaries AECCase, Inc. and AEMase, Inc. each entered into an exclusive, worldwide license agreement, including the right to grant sublicenses, with the University of Texas at Austin (the "University") for certain intellectual property owned by the University related to cystinase and methioninase. In January 2017, the Company and the University entered into an Amended and Restated Patent License Agreement (the "Restated License"), which consolidated the two license agreements, revised certain obligations, and licensed additional patent applications and invention disclosures to us. The Restated License was amended in August 2017, December 2017, and December 2018 to revise diligence milestones and license additional patent applications, including our program candidates under the pegtarviliase and Cystinuria Programs.

Pursuant to the terms of the Restated License, the Company may be required to pay the University up to \$6.4 million in milestone payments based on the achievement of certain development milestones, including clinical trials and regulatory approvals, the majority of which are due upon the achievement of later development milestones, including a \$5.0 million payment due on regulatory approval of a product and a \$0.5 million payment payable on final regulatory approval of a product for a second indication. In addition, the Company is required to pay the University a low single-digit royalty on worldwide-net sales of products covered under the Restated License, together with a revenue share on non-royalty consideration received from sublicensees. The rate of the revenue share ranges from 6.5% to 25% depending on the date the sublicense agreement is signed.

In the year ended December 31, 2022, the Company paid \$0.1 million in milestone payments pursuant to the Restated License. For the years ended December 31, 2021 and 2020, the Company paid \$0.1 million in license fees annually.

10. Stock-Based Compensation

2015 Equity Incentive Plan

In March 2015, the Company adopted the 2015 Equity Incentive Plan ("2015 Plan"), administered by the board of directors, and provides for the Company to sell or issue common stock or restricted common stock, or to grant incentive stock options or nonqualified stock options for the purchase of common stock, to employees, members of the board of directors and consultants of the Company. Under the terms of the 2015 Plan, the exercise prices, vesting and other restrictions may be determined at the discretion of the board of directors, or their committee if so delegated, except that the exercise price per share of stock options may not be less than 100% of the fair market value of the share of common stock on the date of grant, the term of stock options may not be greater than ten years for all grants, and for grantees holding more than 10% of the total combined voting power of all classes of stock, the term may not be greater than five years.

The Company granted options under the 2015 Plan until April 2016 when it was terminated as to future awards, although it continues to govern the terms of options that remain outstanding under the 2015 Plan.

As of December 31, 2022, a total of 3,785 shares of common stock are subject to options outstanding under the 2015 Plan and will become available under the 2016 Equity Incentive Plan ("2016 Plan") to the extent the options are forfeited or lapse unexercised.

2016 Equity Incentive Plan

The 2016 Plan became effective in April 2016 and serves as the successor to the 2015 Plan. Under the 2016 Plan, the Company may grant stock options, stock appreciation rights, restricted stock awards, restricted stock units, performance awards, and stock bonuses. The 2016 Plan provides for an initial reserve of 44,000 shares of common stock, plus 20,394 shares of common stock remaining under the 2015 Plan, and any share awards that subsequently are forfeited or lapse unexercised under the 2015 Plan. The shares reserved exclude shares of common stock reserved for issuance under the 2015 Plan.

In October 2018, the 2016 plan was amended to increase the number of shares of common stock reserved for issuance thereunder by 70,384 shares, extend the term of the 2016 Plan through August 7, 2028, and provide for an automatic increase in the number of shares reserved for issuance thereunder on January 1 of each year for the remaining term of the plan equal to (a) 4.0% of the number of issued and outstanding shares of common stock on December 31 of the immediately preceding year, or (b) a lesser amount as approved by the board each year. As a result of the operation of each of these provisions, on January 1, 2022, 2021, and 2020, an additional 78,968, 76,734, and 46,535 shares, respectively, became available for issuance under the 2016 Plan.

As of December 31, 2022, the total number of shares reserved for issuance under the 2016 Plan was 432,725, of which 319,122 shares were subject to outstanding option awards and restricted unit awards.

2018 Equity Inducement Plan

In February 2018, the board of directors approved and adopted the 2018 Equity Inducement Plan (“2018 Plan”), which became effective on the same date. The board of directors approved an initial reserve of 44,000 shares of common stock to be used exclusively for individuals who were not previously employees or directors, or following a bona fide period of non-employment, as an inducement material to the individual entering into employment with the Company. Nonqualified stock options or restricted stock units may be granted under the 2018 Plan at the discretion of the Compensation Committee or the board of directors. The Company did not seek stockholder approval of the 2018 Plan pursuant to Nasdaq Rule 5635(c) (4).

As of December 31, 2022, the total number of shares reserved for issuance under the 2018 Plan was 44,000, of which 12,440 shares were subject to outstanding option awards.

Under the 2016 Plan and 2018 Plan, the Company may grant stock-based awards with service conditions (“service-based” awards), performance conditions (“performance-based” awards), and market conditions (“market-based” awards). Service-based awards granted under the 2018 Plan, 2016 Plan, and 2015 Plan generally vest over four years and expire after ten years, although awards have been granted with vesting terms less than four years.

CEO Inducement Grant

In November 2022, the Company granted 75,393 non-qualified stock options to the new Chief Executive Officer in a stand alone inducement grant. The first 25% of these options vest on the one year anniversary of the grant, and the remaining 75% vest in equal amounts over 48 months following the one year anniversary date and are exercisable for a term of ten years.

The following table summarizes employee and non-employee stock option activity for the year ended December 31, 2022:

	Shares Issuable Under Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding as of December 31, 2021	264,303	\$ 189.00	7.90	\$ 328
Granted	235,199	45.00		
Exercised	—	—		
Forfeited	(94,421)	153.50		
Outstanding as of December 31, 2022	<u>405,081</u>	\$ 113.75	6.72	\$ 2
Options vested and expected to vest as of December 31, 2022	<u>397,772</u>	\$ 112.50	6.78	\$ 2
Options exercisable as of December 31, 2022	<u>163,450</u>	\$ 171.00	4.93	\$ —

The aggregate intrinsic value of options outstanding, exercisable, vested and expected to vest were calculated as the difference between the exercise price of the options and the fair value of the Company's common stock as of the reporting date.

For the years ended December 31, 2022, 2021, and 2020, the weighted-average grant date fair value of options granted was \$45.00, \$124.00, and \$117.00, respectively. No options were exercised in the year ended December 31, 2022. The total intrinsic value of options exercised during the years ended December 31, 2021, and 2020 was \$0.7 million and \$0.4 million, respectively.

There were no stock options issued to non-employees during the years ended December 31, 2022, 2021, and 2020. For the year ended December 31, 2020, 66 non-employee stock options vested in the period. For the years ended December 31, 2022 and 2021, no non-employee stock options vested in the period.

2016 Employee Stock Purchase Plan

The 2016 Employee Stock Purchase Plan ("2016 ESPP") became effective in April 2016. A total of 6,600 shares of common stock were reserved for issuance under the 2016 ESPP. Eligible employees may purchase shares of common stock under the 2016 ESPP at 85% of the lower of the fair market value of the Company's common stock as of the first or the last day of each offering period. Employees are limited to contributing 15% of the employee's eligible compensation and may not purchase more than \$25,000 of stock during any calendar year. The 2016 ESPP will terminate ten years from the first purchase date under the plan, unless terminated earlier by the board of directors.

In June 2018, the 2016 ESPP was amended to provide for an automatic annual increase in the number of shares reserved for issuance thereunder on January 1 of each year for the remaining term of the year equal to (a) 1.0% of the number of issued and outstanding shares of common stock on December 31 of the immediately preceding year, or (b) a lesser amount as approved by the board of directors each year. As a result of the operation of this provision, on January 1, 2022, 2021 and 2020, an additional 19,742, 19,183, and 11,633 shares, respectively, became available for issuance under the 2016 ESPP. As of December 31, 2022, the reserve remaining and available for future issuance under the 2016 ESPP was 48,665 shares.

In February 2023, the 2016 ESPP was amended to increase the maximum shares purchased during any one period from 80 shares to 400 shares or a lesser amount determined by the board of directors.

Restricted Common Stock Units

The Company granted 9,128 restricted stock units ("RSUs") during the year ended December 31, 2020 to certain employees with regulatory, commercial, and clinical milestones in addition to a service condition. There were no RSUs granted for the years ended December 31, 2022 and 2021.

As of December 31, 2022, the performance conditions of the granted RSUs were not probable of being achieved. If and when the performance milestones are deemed probable of being achieved within the required time frame, the Company may recognize up to \$1.2 million of stock-based compensation for the remaining unvested RSUs as of December 31, 2022.

The following table summarizes employee restricted stock activity for the year ended December 31, 2022:

	<u>Shares</u>	<u>Weighted Average Grant Date Fair Value</u>
Unvested restricted stock units as of December 31, 2021	7,600	\$ 203.25
Granted	—	—
Vested	—	—
Forfeited	(1,940)	203.25
Unvested restricted stock units as of December 31, 2022	<u>5,660</u>	<u>\$ 203.25</u>

There were no RSUs granted to non-employees during the years ended December 31, 2022, 2021, and 2020.

Stock-Based Compensation Expense

Total stock-based compensation expense recognized from the Company's equity incentive plans, 2018 Plan, and the 2016 ESPP for the years ended December 31, 2022, 2021, and 2020 was as follows (in thousands):

	<u>Year Ended December 31,</u>					
	<u>2022</u>		<u>2021</u>		<u>2020</u>	
	<u>Employees</u>	<u>Non- Employees</u>	<u>Employees</u>	<u>Non- Employees</u>	<u>Employees</u>	<u>Non- Employees</u>
Research and development	\$ 2,591	\$ —	\$ 2,723	\$ —	\$ 2,168	\$ 36
General and administrative	4,520	—	5,315	—	4,052	—
Total stock-based compensation expense	<u>\$ 7,111</u>	<u>\$ —</u>	<u>\$ 8,038</u>	<u>\$ —</u>	<u>\$ 6,220</u>	<u>\$ 36</u>

No related tax benefits were recognized for the years ended December 31, 2022, 2021, and 2020 (see Note 11).

The employee and non-employee awards contain both performance and service-based vesting conditions. No expense was recognized for the unvested employee and non-employee awards with only a performance condition for the years ended December 31, 2022, 2021, and 2020. The performance-based vesting conditions represent specific performance targets. Compensation expense for employee and non-employee share-based payment awards with performance conditions is recognized when the performance condition is deemed probable of achievement.

As of December 31, 2022, the Company had an aggregate of \$11.6 million of unrecognized stock-based compensation expense for options outstanding, which is expected to be recognized over a weighted average period of 1.6 years.

In determining the fair value of the stock-based awards, the Company uses the Black-Scholes option-pricing model and assumptions discussed below. Each of these inputs is subjective and generally requires significant judgment to determine.

Expected Term

The Company's expected term represents the period that the Company's stock-based awards are expected to be outstanding and is determined using the simplified method (based on the midpoint between the vesting date and the end of the contractual term). The Company utilizes this method due to lack of historical exercise data and the plain-vanilla nature of the Company's stock-based awards.

Expected Volatility

Since the Company was privately held through April 2016, it alone does not have the relevant company-specific historical data to support its expected volatility. As such, the Company has used an average of expected volatilities based on the volatilities of a representative group of publicly traded biopharmaceutical companies over a period equal to the expected term of the stock option grants. Subsequent to the Company's initial public offering, it began to consider the Company's own historic volatility. However, due to its limited history as a public company, the Company still uses peer company data to assist in this analysis. For purposes of identifying comparable companies, the Company selected companies with comparable characteristics to it, including enterprise value, risk profiles, position within the industry, and with historical share price information sufficient to meet the expected life of the stock-based awards. The historical volatility data was computed using the daily closing prices for the selected companies' shares during the equivalent period of the calculated expected term of the stock-based awards. The Company intends to consistently apply this process using the same or similar comparable entities until a sufficient amount of historical information regarding the volatility of the Company's own share price becomes available.

Risk-Free Interest Rate

The risk-free interest rate is based on the U.S. Treasury zero coupon issues in effect at the time of grant for periods corresponding with the expected term of option.

Expected Dividend

The Company has never paid dividends on its common stock and has no plans to pay dividends on its common stock. Therefore, the Company used an expected dividend yield of zero.

Valuation of Stock Options and 2016 ESPP

The fair value of the stock options granted under the 2018 Plan, 2016 Plan, 2015 Plan and the CEO inducement grant, as well as the shares available for purchase under the 2016 ESPP were determined using the Black-Scholes option-pricing model. The following table summarizes the weighted-average assumptions used in calculating the fair value of the awards:

	Year Ended December 31,		
	2022	2021	2020
Stock Options Granted			
Expected term (in years)	6.00	5.99	6.10
Expected volatility	84%	83%	76%
Risk-free interest	2.93%	0.88%	1.06%
Dividend yield	0%	0%	0%
2016 ESPP			
Expected term (in years)	0.49	0.50	0.50
Expected volatility	84%	86%	76%
Risk-free interest	1.95%	0.08%	0.75%
Dividend yield	0%	0%	0%

11. Defined Contribution Plan

The Company sponsors a 401(k) retirement plan in which substantially all of its full-time employees are eligible to participate. Participants may contribute a percentage of their annual compensation to this plan, subject to statutory limitations. During the years ended December 31, 2022, 2021, 2020, the Company provided \$0.6 million, \$0.6 million, and \$0.5 million, respectively, in contributions to the plan.

12. Income Taxes

The following table summarizes the (loss) income before income tax expense by jurisdiction for the periods indicated:

	Year Ended December 31,		
	2022	2021	2020
Domestic	\$(84,113)	\$(65,940)	\$(80,893)
Foreign	162	280	—
Loss before income tax expense	<u>\$(83,951)</u>	<u>\$(65,660)</u>	<u>\$(80,893)</u>

For the year ended December 31, 2022, the Company recognized an income tax expense of \$0.1 million, related to foreign subsidiaries refund from research client and foreign subsidiaries income tax expense. For the year ended December 31, 2021, the Company recognized an income tax expense of \$0.1 million, related to foreign subsidiaries income tax expense and the Texas margins tax. For the year ended December 31, 2020, the Company recognized no provision or benefit from income taxes. The difference between the Company's provision for income taxes and the amounts computed by applying the statutory federal income tax rate to income before income taxes is as follows (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Tax provision derived by applying the federal statutory rate to income before income taxes	\$(17,630)	\$(13,789)	\$(16,988)
Permanent differences and other	1,042	1,002	482
Federal tax credits	(3,559)	(3,815)	(3,905)
State tax credits	(640)	(152)	(251)
Effect of tax rate on foreign jurisdiction	42	(5)	—
Change in the valuation allowance	20,609	16,900	20,662
Income tax (benefit) expense	<u>\$ (136)</u>	<u>\$ 141</u>	<u>\$ —</u>

The components of the deferred tax assets and liabilities consist of the following (in thousands):

	December 31,	
	2022	2021
Deferred tax assets		
Net operating loss carryforward	\$ 68,917	\$ 64,531
Intangible assets	11,149	57
Deferred revenue	566	—
Accrued expense	668	846
Stock-based compensation	3,293	2,767
Federal tax credits	21,914	18,579
State tax credits	1,631	991
Other	190	220
Total deferred tax assets	<u>108,328</u>	<u>87,991</u>
Deferred tax liabilities		
Depreciable assets	(676)	(948)
Total deferred tax liabilities	<u>(676)</u>	<u>(948)</u>
Less: Valuation allowance	<u>(107,652)</u>	<u>(87,043)</u>
Deferred tax assets, net	<u>\$ —</u>	<u>\$ —</u>

The Company has established a full federal and state valuation allowance equal to the net deferred tax assets due to uncertainties regarding the realization of the deferred tax asset based on the Company's lack of earnings history. The valuation allowance increased by \$20.6 million, \$16.9 million, and \$20.7 million during the years ended December 31, 2022, 2021, and 2020, respectively, primarily due to continuing loss from operations.

As of December 31, 2022 and 2021, the Company had U.S. net operating loss carryforwards ("NOL") of \$328.2 million and \$307.3 million, respectively. As of December 31, 2022 and 2021, the Company had U.S. tax credit carryforwards of \$21.9 million and \$18.6 million, respectively, and state tax credit carryforwards of \$1.6 million and \$1.0 million, respectively. Of the net operating loss and tax credit carryforwards, \$58.4 million and \$21.9 million, respectively, will expire in 2033, if not utilized. Any remaining net operating loss will carry forward indefinitely and can be utilized to offset up to 80% of the taxable income in any tax year. The net operating loss and credit carryforwards are subject to Internal Revenue Service adjustments until the statute closes on the year the net operating loss or tax credits are utilized.

The Company has not completed a study to assess whether an ownership change has occurred or whether there have been multiple ownership changes since the Company's formation due to the complexity and cost associated with such a study, and the fact that there may be additional such ownership changes in the future. If the Company has experienced an ownership change at any time since its formation, utilization of the NOL or research and development credit carryforwards would be subject to an annual limitation under Section 382 or 383 of the Internal Revenue Code, which is determined by first multiplying the value of the Company's stock at the time of the ownership change by the applicable long-term, tax-exempt rate, and then could be subject to additional adjustments, as required. Additionally, the separate return limitation year ("SRLY") rules may apply to losses of the Company's eight wholly owned U.S. subsidiary corporations. The SRLY rules limit the consolidated group's use of a subsidiary corporation's net operating losses to the amount of income generated by the subsidiary corporation after it becomes a member of the group. Any limitation may result in expiration of a portion of the NOL or research and development credit carryforwards before utilization. Further, until a study is completed and any limitation known, no amounts are being considered as an uncertain tax position or disclosed as an unrecognized tax benefit. Additionally, the Company does not expect any unrecognized tax benefits to change significantly over the next twelve

months. Due to the existence of the valuation allowance, future changes in the Company's unrecognized tax benefits will not impact its effective tax rate. Any carryforwards that will expire prior to utilization as a result of such limitations will be removed from deferred tax assets with a corresponding reduction of the valuation allowance.

The Company is subject to examination by taxing authorities in its significant jurisdictions for the 2018 and subsequent years. However, due to NOL and tax attribute carryovers, the taxing authorities have the ability to adjust the NOLs and other tax attributes related to closed years. As of December 31, 2022 and 2021, there were no amounts recorded for uncertain tax positions. As of December 31, 2022, undistributed earnings of the Company's newly incorporated foreign subsidiaries are immaterial. Under the Global Intangible Low-Taxed Income ("GILTI") provisions of the 2017 Tax Cuts and Jobs Act, U.S. income taxes have been incurred on the undistributed earnings of the foreign subsidiaries and therefore, the tax impact upon distribution is limited to state income and withholding taxes and is not material.

13. Net Loss Per Share

Basic and diluted net loss per share is computed by dividing net loss by the weighted-average number of common stock and pre-funded warrants outstanding during the period. The pre-funded warrants are included in the computation of basic net loss per share as the exercise price is negligible and they are fully vested and exercisable. For periods in which the Company generated a net loss, the Company does not include the potential impact of dilutive securities in diluted net loss per share, as the impact of these items is anti-dilutive.

The following weighted-average equity instruments were excluded from the calculation of diluted net loss per share because their effect would have been anti-dilutive for the periods presented:

	<u>Year Ended December 31,</u>		
	<u>2022</u>	<u>2021</u>	<u>2020</u>
Options to purchase common stock	346,331	264,858	201,977
Unvested restricted stock units	6,982	7,975	4,239

The following is a reconciliation of the shares used as the denominator for the calculation of basic and diluted net loss per share:

	<u>Year Ended December 31,</u>		
	<u>2022</u>	<u>2021</u>	<u>2020</u>
Weighted average common shares	2,307,668	1,956,933	1,608,952
Weighted average pre-funded warrants	1,063,563	672,851	525,917
Total basic and diluted weighted average shares	<u>3,371,231</u>	<u>2,629,784</u>	<u>2,134,869</u>

14. Reverse Stock Split

On September 8, 2023, the Company effected a reverse stock split of its common stock at a ratio of 1-for-25 (the "Reverse Split"). Upon the effectiveness of the Reverse Split, (i) every 25 shares of outstanding common stock were reclassified and combined into one share of common stock, (ii) the number of shares of common stock for which each outstanding option and warrant to purchase common stock is exercisable was proportionally decreased and the exercise price of each outstanding option and warrant to purchase common stock proportionally increased, and (iii) the total number of authorized shares of common stock was proportionally decreased. No fractional shares were issued as a result of the Reverse Split. Accordingly, all share and per share amounts for all periods presented in these financial statements and notes thereto have been adjusted retroactively, where applicable, to reflect the Reverse Split and adjustment of the exercise price of each outstanding option and warrant as if the transaction had occurred as of the beginning of the earliest period presented.